

DXXX (SERIES)	15	KDE 32-15KV	31	KML 2090	42	KT04	14
K 109	33	KDE 33	20	KML 2100	42	KT054	14
K 1805	28	KDE 335	21	KNT	14	KT06	14
K 1806	28	KDE 34	24	KRC 50	60	KT085	14
K 1807	28	KDE 35	24	KRC 51	60	KT10	14
K 190	25	KDE 36	24	KRC 520	48	KT13	14
K 191	25	KDE 370	19	KRC 522	48	KT15	14
K 28300	49	KDE 371	19	KRC 55	49	KT17	14
K 327	29	KDE 372	19	KRC 56	49	KT20	14
K 328	29	KDE 373	18	KSA 5005	50	KT30	14
K 34	20	KDE 374	18	KSA 5006	50	KT37	14
K 351	21	KDE 375	18	KSA 5008	51	KT40	14
K 361	21	KDE 38	22	KSA 5011	51	KT50	14
K 362	35	KDE 54	56	KSA 5013	52	KTC 303	38
K 364	35	KDL 50	59	KSA 5014	52	KTP 300	25
K 368	37	KDL 51	59	KSA 5017	53	KTP 301	23
K 370	37	KDL 52	62	KSA 5020	53	KTP 302	34
K 384	39	KDL 53	62	KSC 309	11	KTP 303	36
K 444	23	KHMLP 3.101	20	KSC 3094	11	KTP 304	34
K 465	23	KLB 36	57	KSC 3098	11	KU (SERIES)	63
K 467	29	KM 2019	43	KSL 50	56	KUS 30	22
K 506	57	KM 2029	43	KSL 51	59	KUS 31	22
K 550	61	KM 2039	43	KSL 514	58	KUS 32	32
K 551	61	KM 2049	44	KSL 520	48	KUS 387	17
K 556	61	KM 2059	44	KSL 55	56	KUS 388	17
K112981	10	KM 2069	44	KSL 552	57	KUS 389	17
K112984	10	KM 2079	45	KSL 58	58	KVD-03-(SERIES)	16
K112988	10	KM 2089	45	KSL 580	58	KVD-05-(SERIES)	55
KAD/01	13	KM 2099	45	KSM 38	9	KVL 5002-(SERIES)	54
KBG/01	13	KM 2109	46	KSM 380	8	KVL 5002/2-(SERIES)	54
KC 02	47	KMA 301	12	KSM 3804	8	KVL 5002/3-(SERIES)	54
KCL 550	60	KMA 304	12	KSM 3808	8	KVT 3501	4
KCLA	15	KML 2020	40	KSM 384	9	KVT 3504	4
KDC 302	30	KML 2030	40	KSM 388	9	KVT 3508	4
KDE 30	26	KML 2030/RA	46	KST 3501	5	KVT 3801	6
KDE 301	26	KML 2040	40	KST 3504	5	KVT 3804	6
KDE 301-15KV	27	KML 2040/RA	46	KST 3508	5	KVT 3808	6
KDE 30-15KV	27	KML 2050	41	KST 3801	7	KZD 10	47
KDE 31	26	KML 2060	41	KST 3804	7		
KDE 31-15KV	27	KML 2070	41	KST 3808	7		
KDE 32	30	KML 2080	42	KT02	14		

EUROTRONIKS reserves the right to make changes at any time in order to supply the best products possible.

Ø 3 mm	Led Line from 1 to 14 LEDS, separable and arrangeable in rows	4 ÷ 13
Ø 3 mm	Spacer and Light Transporters Single and Multi-Led	14 ÷ 16
Ø 3 mm	Single. Standard, combinable and snap-together design	17 ÷ 29
Ø 3 mm	Bi-Level. Standard, combinable and snap-together design	29 ÷ 35
Ø 3 mm	Tri-Level. Standard and snap-together design	36 ÷ 38
Ø 3 mm	Quad-Level	39
Ø 1,8 mm	Miniature Led Line from 2 to 10 Leds arrangeable in rows	40 ÷ 42
Ø 1,8 mm	Miniature Led Line right angle from 1 to 10 Leds arrangeable in rows	43 ÷ 46
Ø 1,8 mm	Tri-Level and Quad-Level	46
	Insulator for Crystal Quartz and Socket for display	47
 	Single. Rectangular and Square standard and snap-together design	48 ÷ 49
Ø 5 mm	Led Line from 1 to 4 Leds, separable and arrangeable in rows	50 ÷ 53
Ø 5 mm	Spacer, Single and Multi-Led	54 ÷ 55
Ø 5 mm	Single. Standard and snap-together design	56 ÷ 61
Ø 5 mm	Bi-Level. Standard and snap-together design	62
	Led Lamps	63
	Light Transporters and Light Pipes	64

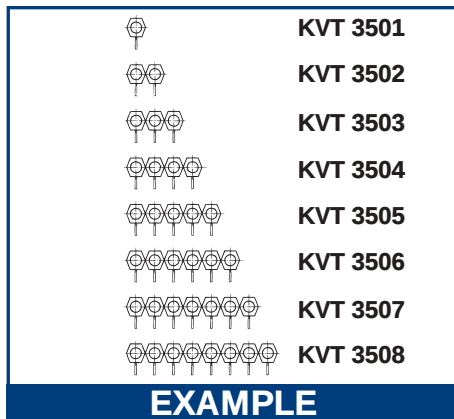
STANDARD ON INQUIRY:

- Reverse polarity
- Led's terminals preformation
- Minor or major led's terminals lenght
- Plastic color
- Plastic material on specific
- Straight version
- Depht led's

CUSTOM PRODUCT = 0 COST

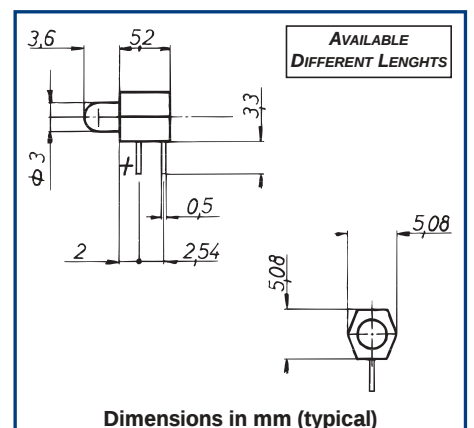
- Assure you the right partner in order to develop together new plans.

INSIDE THIS CATALOGUE is shown only the super-standard production.
A lot of 1.300 devices, which are not shown, are available on inquiry.



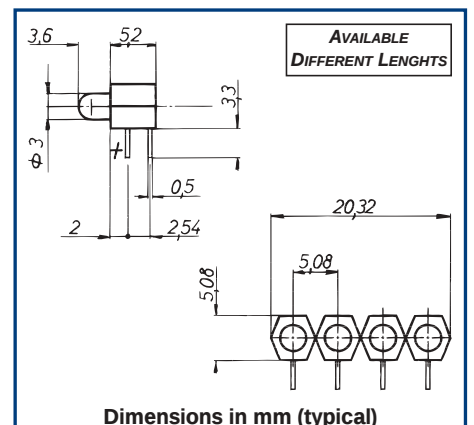
SERIES KVT 3501 Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KVT 3501 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KVT 3501 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KVT 3501 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3501 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KVT 3501 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KVT 3501 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KVT 3501 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3501 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KVT 3501 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KVT 3501 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



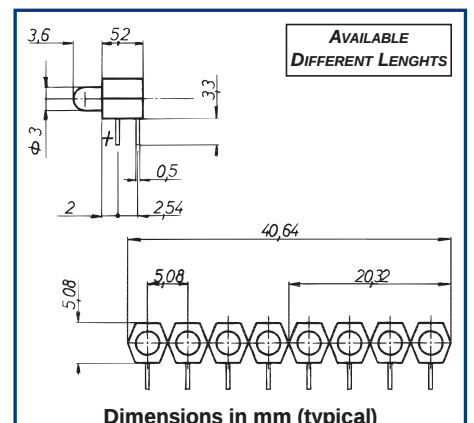
SERIES KVT 3504 Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KVT 3504 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KVT 3504 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KVT 3504 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3504 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KVT 3504 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KVT 3504 - I	IPER RED	660	100	20	120	1,85	2,5		30
KVT 3504 - M	MULTICOLOURED		INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)						
LOW CURRENT									
KVT 3504 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3504 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KVT 3504 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
KVT 3504 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES KVT 3508 Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KVT 3508 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KVT 3508 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KVT 3508 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3508 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KVT 3508 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KVT 3508 - I	IPER RED	660	100	20	120	1,85	2,5		30
KVT 3508 - M	MULTICOLOURED		INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)						
LOW CURRENT									
KVT 3508 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3508 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KVT 3508 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KVT 3508 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

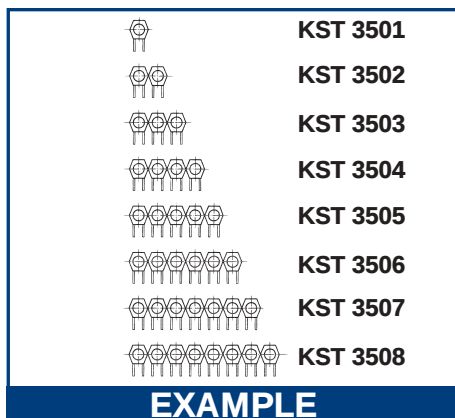


MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

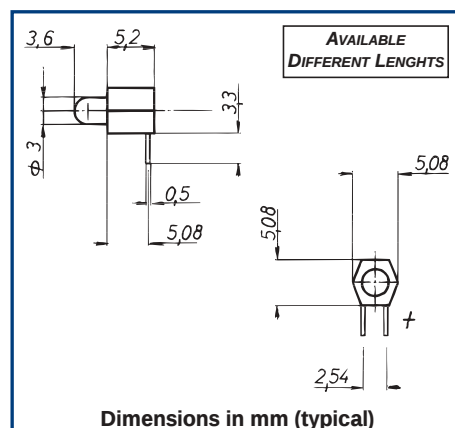
OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



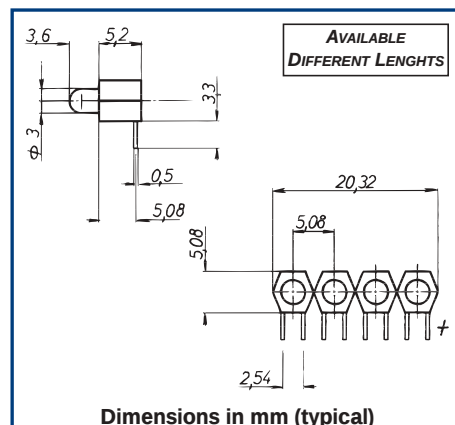
SERIES KST 3501 Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KST 3501 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KST 3501 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KST 3501 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3501 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KST 3501 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KST 3501 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KST 3501 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3501 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KST 3501 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KST 3501 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



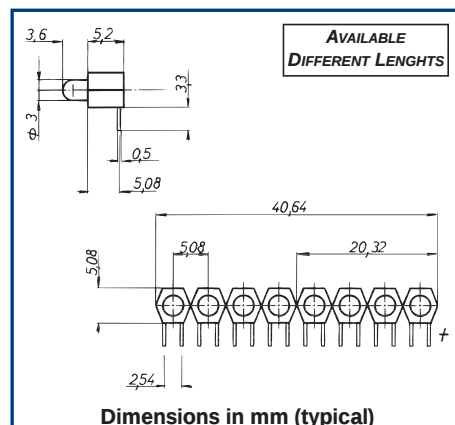
SERIES KST 3504 Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KST 3504 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KST 3504 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KST 3504 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KST 3504 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KST 3504 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KST 3504 - I	IPER RED	660	100	20	120	1,85	2,5		30
KST 3504 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KST 3504 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3504- YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KST 3504 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KST 3504 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES KST 3508 Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KST 3508 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KST 3508 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KST 3508 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3508 - S	SUPER RED	625	20	10	120	2,0	2,5	30	
KST 3508 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KST 3508 - I	IPER RED	660	100	20	120	1,85	2,5		30
KST 3508 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KST 3508 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3508 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KST 3508 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KST 3508 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

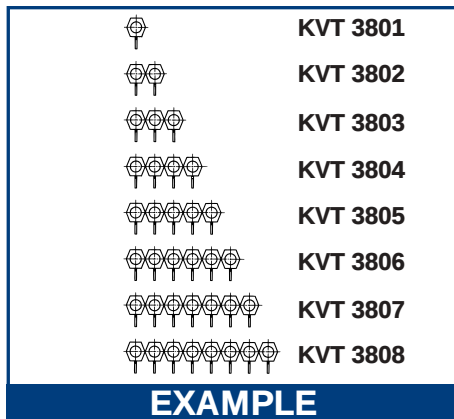


MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

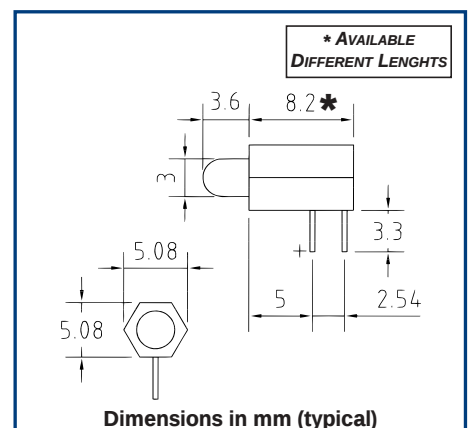
OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



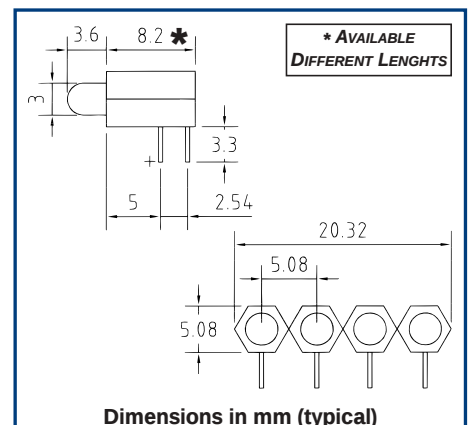
SERIES KVT 3801 Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KVT 3801 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KVT 3801 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KVT 3801 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3801 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KVT 3801 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KVT 3801 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KVT 3801 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3801 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KVT 3801 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KVT 3801 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



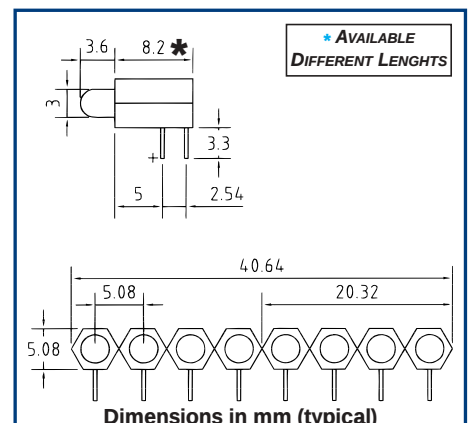
SERIES KVT 3804 Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KVT 3804 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KVT 3804 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KVT 3804 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3804 - S	SUPER RED	625	20	10	120	2,0	2,5	30	
KVT 3804 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KVT 3804 - I	IPER RED	660	100	20	120	1,85	2,5		30
KVT 3804 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KVT 3804 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3804 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KVT 3804 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
KVT 3804 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES KVT 3808 Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KVT 3808 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KVT 3808 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KVT 3808 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KVT 3808 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KVT 3808 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KVT 3808 - I	IPER RED	660	100	20	120	1,85	2,5		30
KVT 3808 - M	MULTICOLOURED		INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)						
LOW CURRENT									
KVT 3808 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KVT 3808 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KVT 3808 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KVT 3808 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

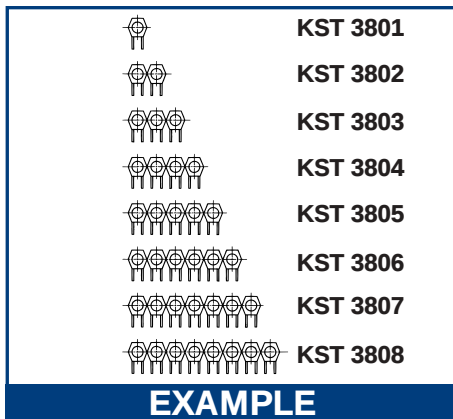


MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

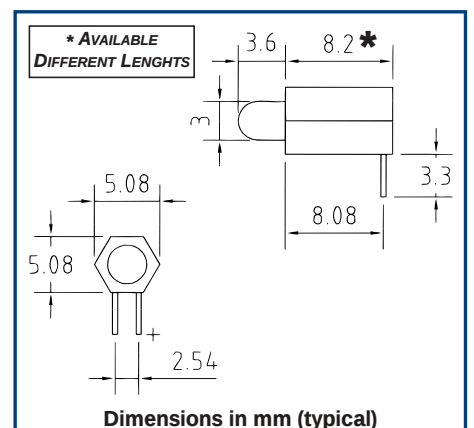
OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



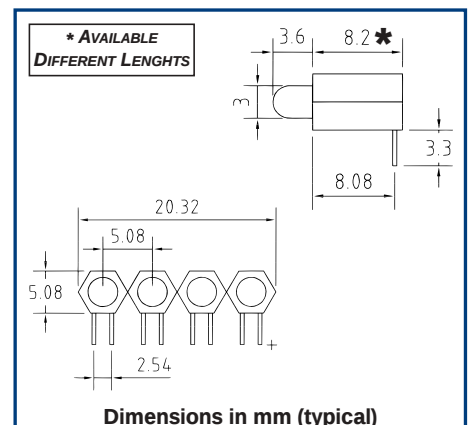
SERIES KST 3801 Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KST 3801 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KST 3801 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KST 3801 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3801 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KST 3801 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KST 3801 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KST 3801 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3801 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KST 3801 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
KST 3801 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



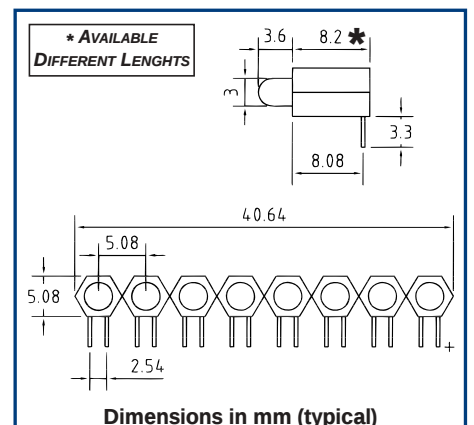
SERIES KST 3804 Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KST 3804 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KST 3804 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KST 3804 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3804 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KST 3804 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KST 3804 - I	IPER RED	660	100	20	120	1,85	2,5		30
KST 3804 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KST 3804 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3804 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KST 3804 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
KST 3804 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES KST 3808 Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KST 3808 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KST 3808 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KST 3808 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KST 3808 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KST 3808 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KST 3808 - I	IPER RED	660	100	20	120	1,85	2,5		30
KST 3808 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KST 3808 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KST 3808 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KST 3808 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
KST 3808 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



KSM 3802



KSM 3803



KSM 3804



KSM 3806

EXAMPLE



KSM 3804

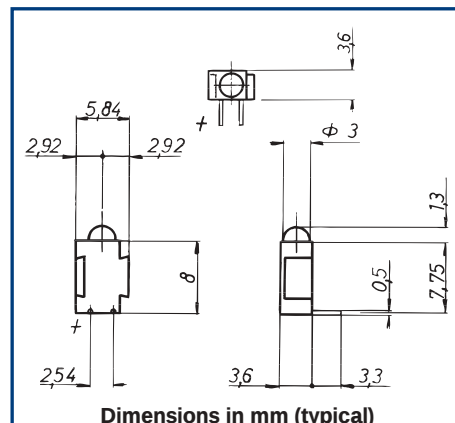


KSM 380

SERIES KSM 380

Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSM 380 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KSM 380 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KSM 380 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 380 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KSM 380 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KSM 380 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSM 380 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 380 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KSM 380 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 380 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

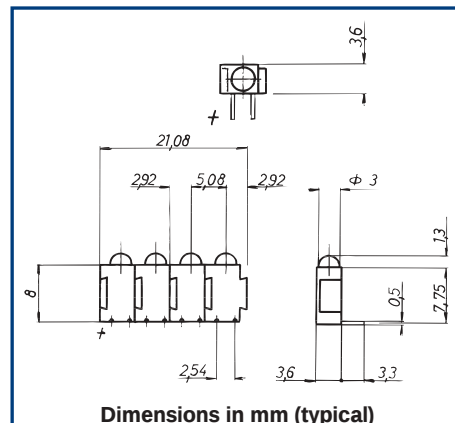


Dimensions in mm (typical)

SERIES KSM 3804

Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSM 3804 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KSM 3804 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KSM 3804 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 3804 - S	SUPER RED	625	20	10	120	2,0	2,5	30	30
KSM 3804 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KSM 3804 - I	IPER RED	660	100	20	120	1,85	2,5		30
KSM 3804 - M	MULTICOLOURED		INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)						
LOW CURRENT									
KSM 3804 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 3804- YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KSM 3804 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 3804 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

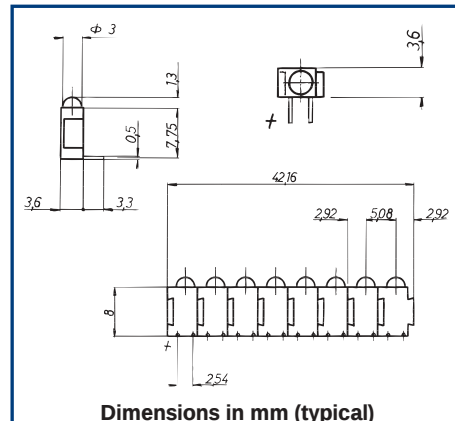


Dimensions in mm (typical)

SERIES KSM 3808

Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSM 3808 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KSM 3808 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KSM 3808 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 3808 - S	SUPER RED	625	20	10	120	2,0	2,5	30	30
KSM 3808 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KSM 3808 - I	IPER RED	660	100	20	120	1,85	2,5		30
KSM 3808 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSM 3808 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 3808 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KSM 3808 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KSM 3808 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



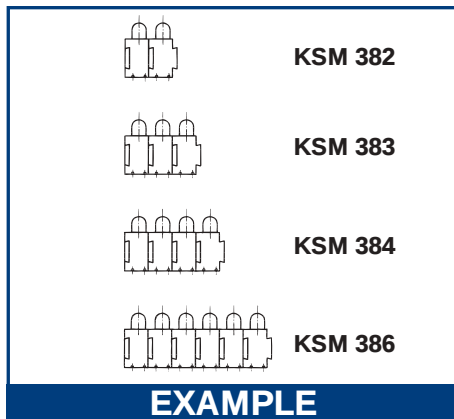
Dimensions in mm (typical)

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

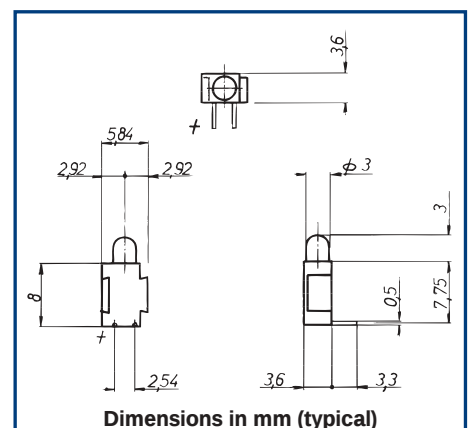
OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



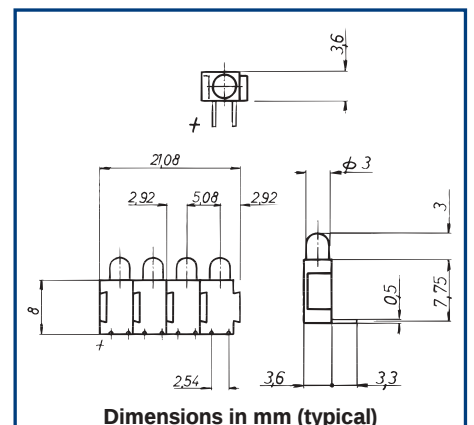
SERIES KSM 38 Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSM 38 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KSM 38 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KSM 38 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 38 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KSM 38 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KSM 38 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KSM 38 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 38 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KSM 38 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KSM 38 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



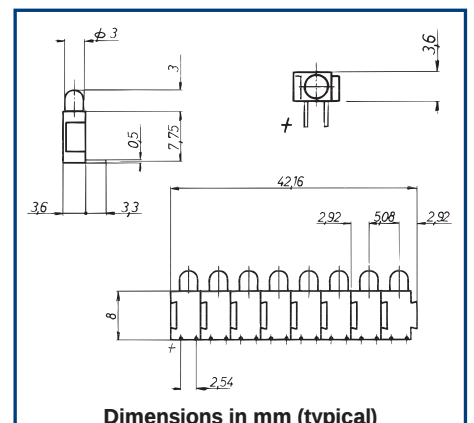
SERIES KSM 384 Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSM 384 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KSM 384 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KSM 384 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 384 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KSM 384 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSM 384 - I	IPER RED	660	100	20	120	1,85	2,5		30
KSM 384 - M	MULTICOLOURED		INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)						
LOW CURRENT									
KSM 384 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 384 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KSM 384 - GL	GREEN	565	2	2	120	1,9	2,5	+ 100	7,5
KSM 384 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES KSM 388 Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSM 388 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KSM 388 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KSM 388 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KSM 388 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KSM 388 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KSM 388 - I	IPER RED	660	100	20	120	1,85	2,5		30
KSM 388 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSM 388 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KSM 388 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KSM 388 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KSM 388 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

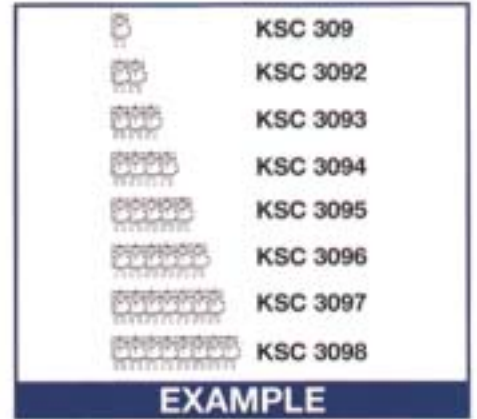


MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

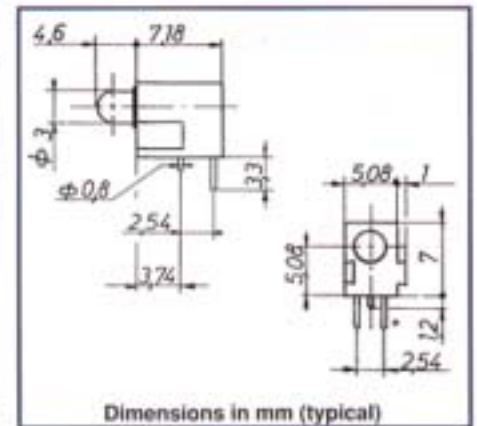
OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



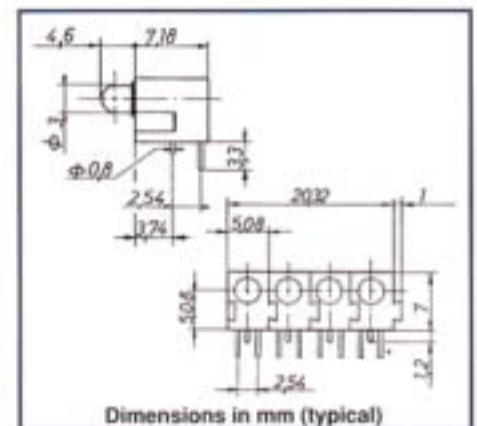
SERIES KSC 309 Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSC 309 - R	RED	700	5	10	120	2.0	2.5	-55	25
KSC 309 - Y	YELLOW	590	12.5	10	120	2.1	2.5	to	30
KSC 309 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KSC 309 - S	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KSC 309 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5	to	25
KSC 309 - I	IPER RED	660	100	20	120	1.85	2.5	+100	30
LOW CURRENT									
KSC 309 - RL	RED	625	2	2	120	1.8	2.5	-55	7.5
KSC 309 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KSC 309 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KSC 309 - IL	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcld	mA	DEGREE°	V	V	°C	mA



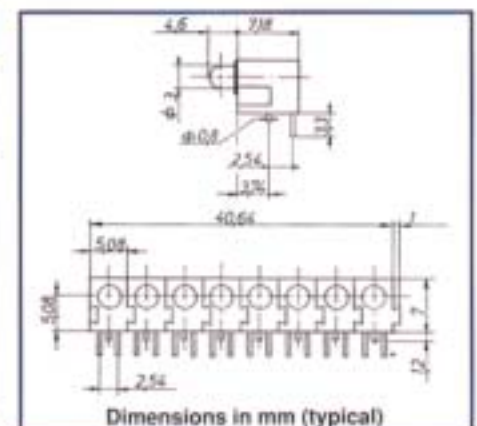
SERIES KSC 3094 Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSC 3094 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSC 3094 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSC 3094 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSC 3094 - S	SUPER RED	625	20	10	120	2.0	2.5	+ 100	30
KSC 3094 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSC 3094 - I	IPER RED	660	100	20	120	1.85	2.5		30
KSC 3094 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSC 3094 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSC 3094 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSC 3094 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSC 3094 - IL	IPER RED	660	20	2	120	1.85	2.5	7.5	
QUALITY TESTED 100%	DIFFUSED	nm	mcld	mA	DEGREE°	V	V	°C	mA



SERIES KSC 3098 Ø 3 mm LED

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSC 3098 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSC 3098 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSC 3098 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSC 3098 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSC 3098 - B	RED-GREEN	625/565	12.5	20	100	2.0	2.5		25
KSC 3098 - I	IPER RED	660	100	20	120	1.85	2.5		30
KSC 3098 - M	MULTICOLOURED	INDICATE COLOURS FROM LEFT TO RIGHT (SEE DRAWING)							
LOW CURRENT									
KSC 3098 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSC 3098 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSC 3098 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSC 3098 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcld	mA	DEGREE°	V	V	°C	mA

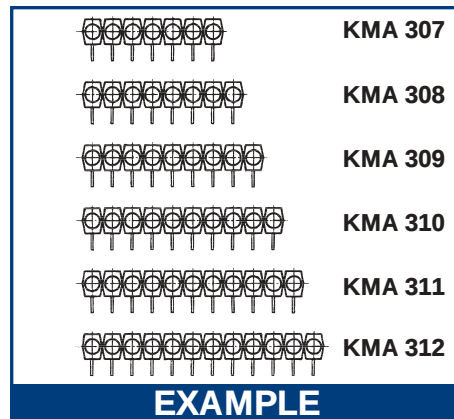
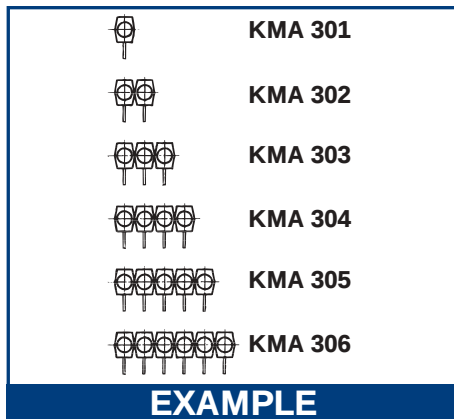


MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

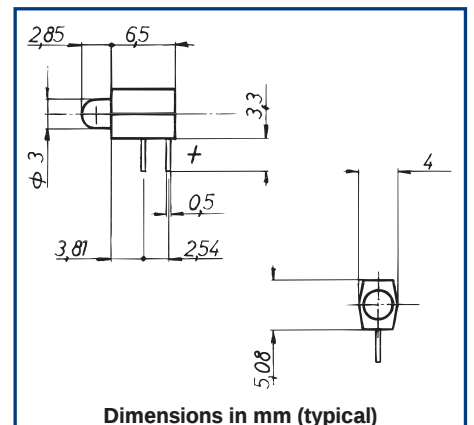
OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



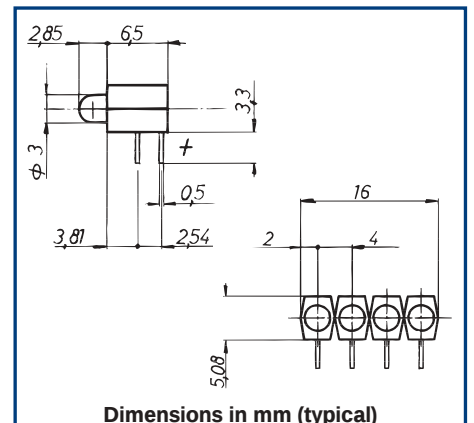
SERIES KMA 301 Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KMA 301 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KMA 301 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KMA 301 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KMA 301 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KMA 301 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KMA 301 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KMA 301 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KMA 301 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KMA 301 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KMA 301 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES KMA 304 Ø 3 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KMA 304 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KMA 304 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KMA 304 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KMA 304 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KMA 304 - B	RED/GREEN	625/565	12,5	20	120	2,0	2,5		25
KMA 304 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KMA 304 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KMA 304 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KMA 304 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KMA 304 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



PART NUMBERS EXAMPLES MULTICOLOURED AND NUMBER OF LED:

KMA 3 ... / R / G / Y / S - L

SERIES

NUMBER OF LED

LED ① COLOUR (RED)

LED ② COLOUR (GREEN)

LED ③ COLOUR (YELLOW)

LED ④ COLOUR (SUPER RED)

LOW CURRENT (IF INQUIRED)

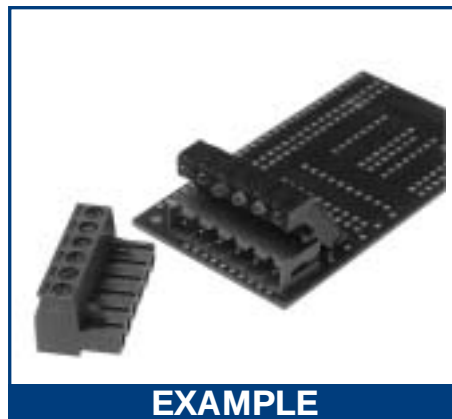
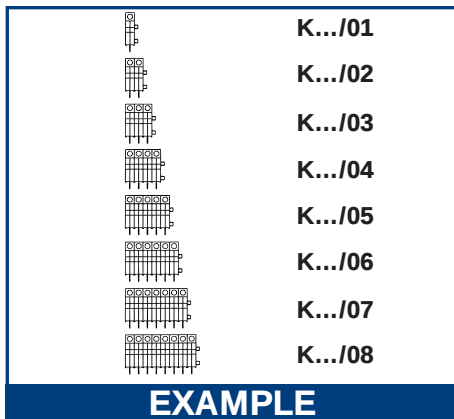
MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

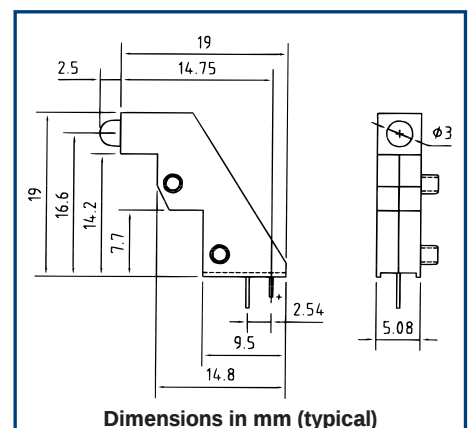
OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs
- ◆ SPECIAL LEDs ON REQUEST
- ◆ STRAIGHT VERSION



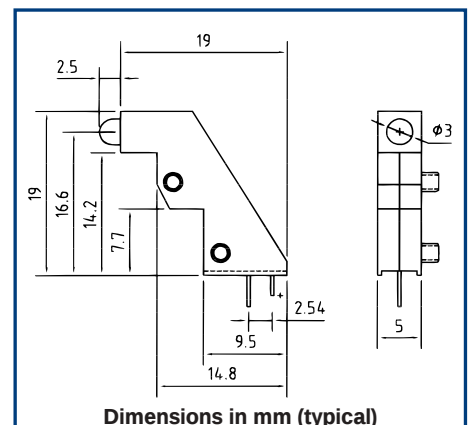
SERIES KBG/01 (5,08 mm Pitch) Ø 3 mm LED

TYPE (1 led)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KBG/01 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KBG/01 - Y	YELLOW	590	12,5	10	120	2,1	2,5	to	30
KBG/01 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KBG/01 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KBG/01 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KBG/01 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KBG/01 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KBG/01 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KBG/01 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KBG/01 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

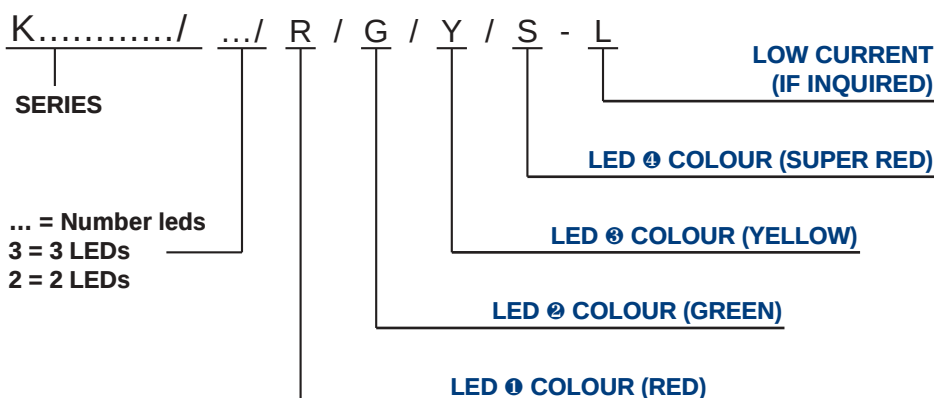


SERIES KAD/01 (5 mm Pitch) Ø 3 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KAD/01 - R	RED	700	5	10	120	2,0	2,5	- 55	25
KAD/01 - Y	YELLOW	590	12,5	10	120	2,1	2,5	to	30
KAD/01 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
KAD/01 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
KAD/01 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
KAD/01 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KAD/01 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
KAD/01 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
KAD/01 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
KAD/01 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



PART NUMBERS EXAMPLES MULTICOLOURED AND NUMBER OF LED



MULTICOLOURED: indicate colours from left to right

MATERIAL SPECIFICATION

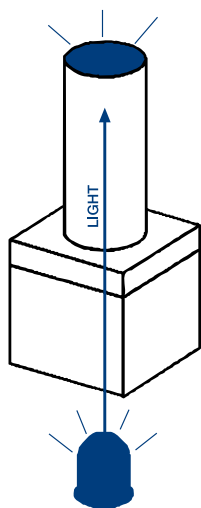
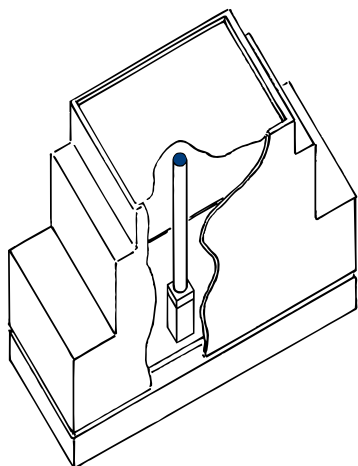
- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDS
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDS
- ◆ SPECIAL LEDS ON REQUEST

3 mm Round. Light Transporters, for Ø 3 mm Led arrangeable in rows. (Single)

One of many applications



ORDERING CODE:

KNT	-	XXX	-	PX
IS THE SERIES		INSERT YOUR LENGTH OF SERIES KT		INSERT YOUR LED CODE: P...

Type	Length	Material	Operating temperature °C
KT02	L = 2 mm	WATER CLEAR UL94-VO	-60°C +125°C
KT04	L = 4 mm		
KT054	L = 5,4 mm		
KT06	L = 6 mm		
KT085	L = 8,5 mm		
KT10	L = 10 mm		
KT13	L = 13 mm		
KT15	L = 15 mm		
KT17	L = 17 mm		
KT20	L = 20 mm		
KT30	L = 30 mm		
KT37	L = 37,9 mm		
KT40	L = 40 mm		
KT50	L = 50 mm		
Your length	L =mm		

HOLDER

Type	Temperat. Range	Deflected Temp.	Flamability	Material
KNT	-60°C + 125°C	152°C	UL-94-V0	PA 6.6

LED

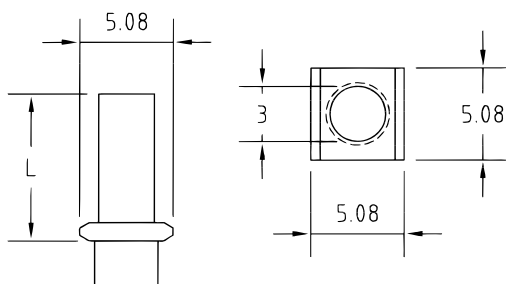
Code	Size	Case	Emited Color	IF 20mA			Operat. temp.
				mcd (TYP)	V (TYP)	Peak	
P1	Ø3mm	WATER CLEAR	Red	100	2.0	635	-30°C +85°C
P2	Ø3mm		Green	100	2.2	568	
P3	Ø3mm		Yellow	90	2.1	585	
P4	Ø3mm		Bi-color red/green	30	2.2	635/568	
P5	Ø3mm		Blue	60	5.1	430	

OPTIONS AVAILABLE

- Other standard lengths - from 1 to 50 mm
- Right angle
- Different shapes and lengths
- Low current (2 mA)
- Led from 10mcd to 3.000mcd
- 5V & 12V integrated resistor
- White LEDs
- Ultrabright-Infrared & Phototransistor
- Blinking LEDs
- Bicolor 3 Leads
- Special LEDs on request

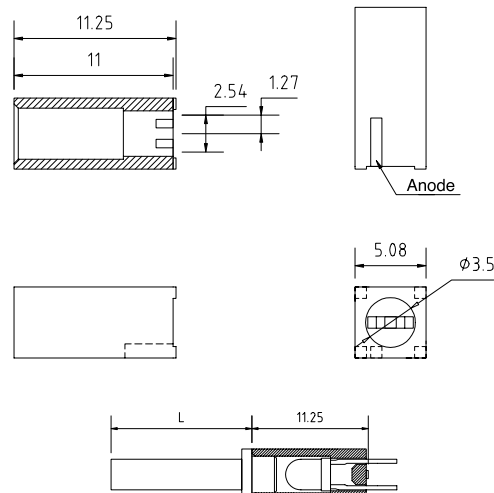
Dimensions in mm (typical)

KT



Dimensions in mm (typical)

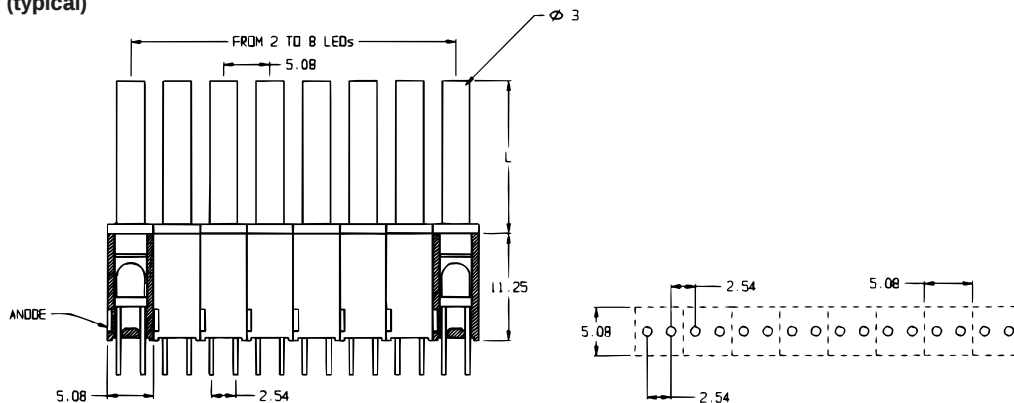
KNT



3 mm Round. Light Transporters, for Ø 3 mm Led arrangeable in rows. (Multi-Led)

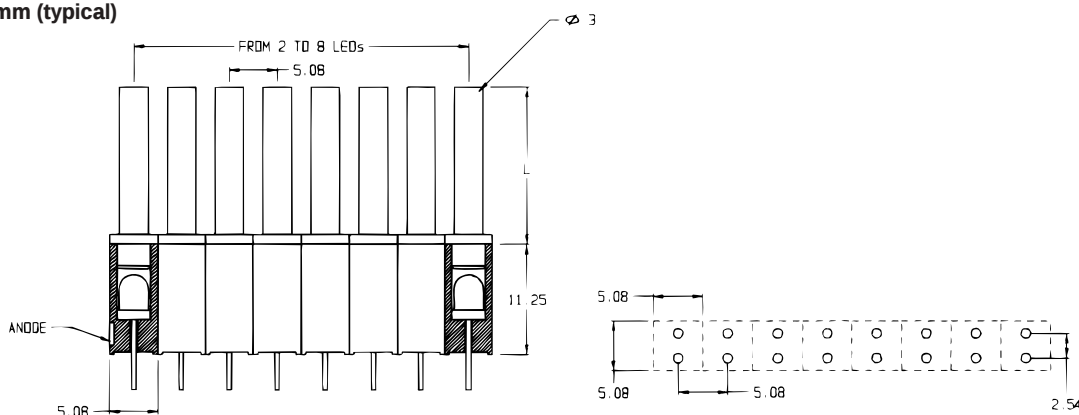
Dimensions in mm (typical)

333



Dimensions in mm (typical)

111



ORDERING CODE:

KNT	-	X	-	XXX	-	PX	-	XXX
IS THE SERIES		NUMBER OF LEDS		INSERT YOUR LENGTH * OF SERIES KT		INSERT YOUR LED CODE: P...		TYPE OF MOUNTING: • 333 • 111

MULTICOLOURED: INDICATE COLOURS FROM LEFT TO RIGHT IN P...
RIGHT ANGLE: INDICATE **RA** (ONLY IN VERSION 333)

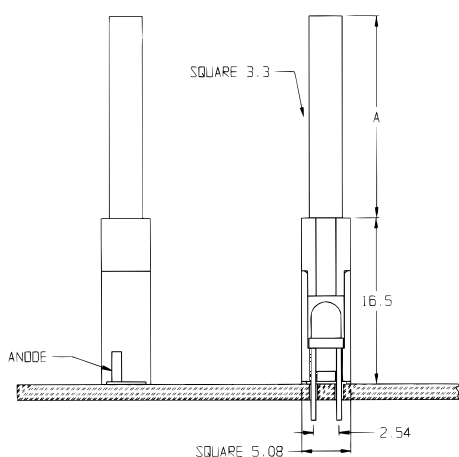
Number Leds		Length L (series KT)
2	-	2 ÷ 50 mm
3	-	2 ÷ 50 mm
4	-	2 ÷ 15 mm
5	-	2 ÷ 15 mm

Number Leds		Length L (series KT)
6	-	2 ÷ 15 mm
7	-	2 ÷ 15 mm
8	-	2 ÷ 15 mm

• SPECIAL LENGTH ON REQUEST

3,3mm Square. Light Transporter for Ø 3 mm Led. (Single)

Dimensions in mm (typical)



OPTICAL SPACER:

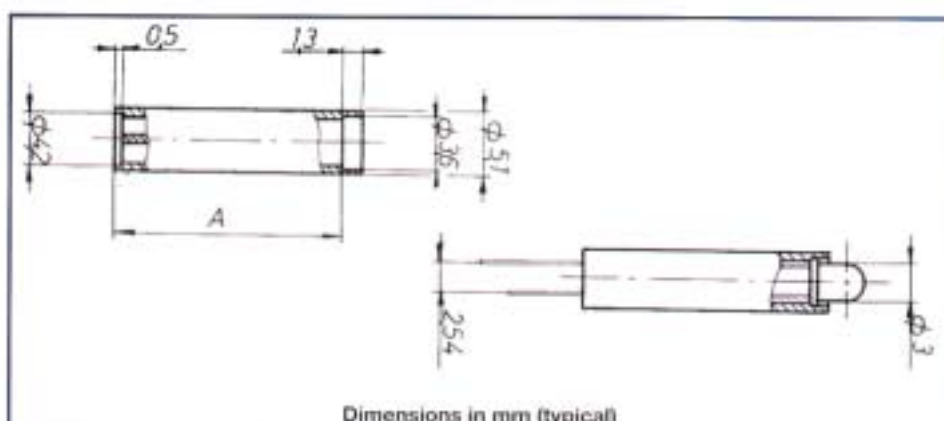
Code	Length A (mm)	Code	Length A (mm)	Code	Length A (mm)	Code	Length A (mm)
D050	5,0	D300	30,0	D550	55,0	D800	80,0
D075	7,5	D325	32,5	D575	57,5	D825	82,5
D100	10,0	D350	35,0	D600	60,0	D850	85,0
D125	12,5	D375	37,5	D625	62,5	D875	87,5
D150	15,0	D400	40,0	D650	65,0	D900	90,0
D175	17,5	D425	42,5	D675	67,5	D925	92,5
D200	20,0	D450	45,0	D700	70,0	D950	95,0
D225	22,5	D475	47,5	D725	72,5	D975	97,5
D250	25,0	D500	50,0	D750	75,0	D1000	100
D275	27,5	D525	52,5	D775	77,5	DXXX	your length (from 5 to 100mm)

ORDERING CODE:

KCLA	-	DXXX	-	PX
IS THE SERIES		LENGTH A		INSERT YOUR LED CODE: P...



KVD 03



Dimensions in mm (typical)

SPACER VARIABLE LENGHT

Ø 3 mm LED

WITHOUT LED	LENGHT - A	WITH LED (TECHNICAL DATA SEE PAGE ON THE SIDE)		
		RED TYPE	GREEN TYPE	YELLOW TYPE
KVD-03-035	A = 3.5 mm	KVD-03-035/R	KVD-03-035/G	KVD-03-035/Y
KVD-03-045	A = 4.5 mm	KVD-03-045/R	KVD-03-045/G	KVD-03-045/Y
KVD-03-055	A = 5.5 mm	KVD-03-045/R	KVD-03-045/G	KVD-03-055/Y
KVD-03-065	A = 6.5 mm	KVD-03-065/R	KVD-03-065/G	KVD-03-065/Y
KVD-03-075	A = 7.5 mm	KVD-03-075/R	KVD-03-075/G	KVD-03-075/Y
KVD-03-085	A = 8.5 mm	KVD-03-085/R	KVD-03-085/G	KVD-03-085/Y
KVD-03-095	A = 9.5 mm	KVD-03-095/R	KVD-03-095/G	KVD-03-095/Y
KVD-03-102	A = 10.2 mm	KVD-03-102/R	KVD-03-102/G	KVD-03-102/Y
KVD-03-110	A = 11.0 mm	KVD-03-110/R	KVD-03-110/G	KVD-03-110/Y
KVD-03-120	A = 12.0 mm	KVD-03-120/R	KVD-03-120/G	KVD-03-120/Y
KVD-03-130	A = 13.0 mm	KVD-03-130/R	KVD-03-130/G	KVD-03-130/Y
KVD-03-140	A = 14.0 mm	KVD-03-140/R	KVD-03-140/G	KVD-03-140/Y
KVD-03-150	A = 15.0 mm	KVD-03-150/R	KVD-03-150/G	KVD-03-150/Y
KVD-03-160	A = 16.0 mm	KVD-03-160/R	KVD-03-160/G	KVD-03-160/Y
KVD-03-170	A = 17.0 mm	KVD-03-170/R	KVD-03-170/G	KVD-03-170/Y
KVD-03-200	A = 20.0 mm	KVD-03-200/R	KVD-03-200/G	KVD-03-200/Y
KVD-03-230	A = 23.0 mm	KVD-03-230/R	KVD-03-230/G	KVD-03-230/Y

OTHER SIZES OR INTERMEDIATE SIZES UPON REQUEST

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ DEFLECTION TEMPERATURE: 152°C
- ◆ HARDNESS (ROCKWELL): R 112
- ◆ AMBIENT TEMPERATURE: -55° to +105°C
- ◆ STORAGE TEMPERATURE: -55° to +105°C

OPTIONS AVAILABLE

- ◆ 5 V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOlar
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs
- ◆ SPECIAL LEDs ON REQUEST



KUS 389



KUS 388

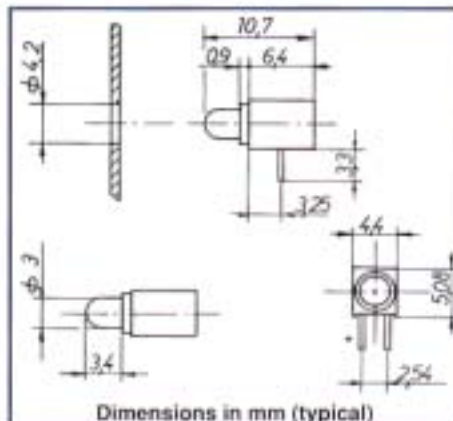


KUS 387

SERIES KUS 389

Ø 3 mm LED

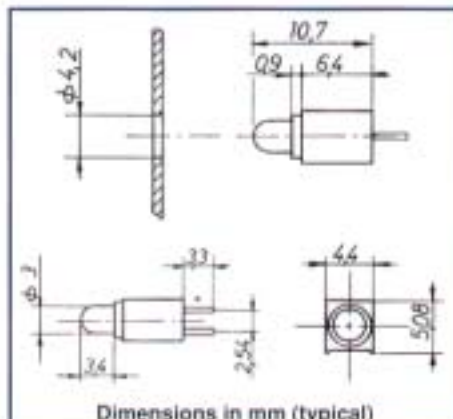
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KLS 389 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KLS 389 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KLS 389 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KLS 389 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KLS 389 - B	RED GREEN	625/565	12.5	20	100	2.0	2.5		25
KLS 389 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KLS 389 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KLS 389 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KLS 389 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KLS 389 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE	V	V	°C	mA



SERIES KUS 388

Ø 3 mm LED

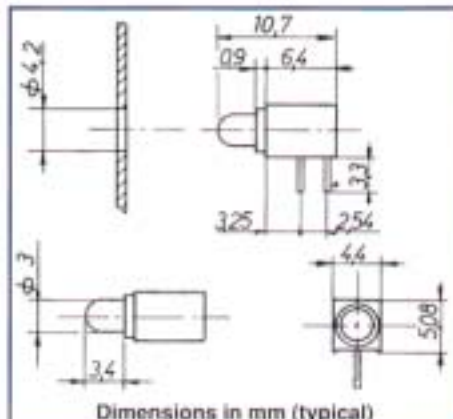
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KLS 388 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KLS 388 - Y	YELLOW	580	12.5	10	120	2.1	2.5		30
KLS 388 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KLS 388 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KLS 388 - B	RED/GREEN	625/583	12.5	20	100	2.0	2.5		25
KLS 388 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KLS 388 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KLS 388 - YL	YELLOW	580	2	2	120	1.9	2.7		7.5
KLS 388 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KLS 388 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	mm	med	mA	DEGREE	V	V	°C	mA



SERIES KUS 387

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KJ5-387 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KJ5-387 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KJ5-387 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KJ5-387 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KJ5-387 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KJ5-387 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KJ5-387 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KJ5-387 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KJ5-387 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KJ5-387 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	mm	mcld	mA	DEGREE	V	V	°C	mA



MATERIAL SPECIFICATION

- ♡ HOUSING: BLACK NORYL, UL94 V-0
 ♡ SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
 ♡ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
 ♡ CLIMATE: DIN 40040
 ♡ TERMINATIONS: □ 0,5 mm leads
 ♡ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- Ⓢ 5 V & 12 V INTEGRATED RESISTOR
- Ⓢ BICOLOUR TRICOLOUR & BIPOLAR
- Ⓢ BLUE OR WHITE LEDs
- Ⓢ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- Ⓢ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- Ⓢ FLAT TOP & BLINKING LEDs Ⓢ SPECIAL LEDs ON REQUEST



KDE 373



KDE 374

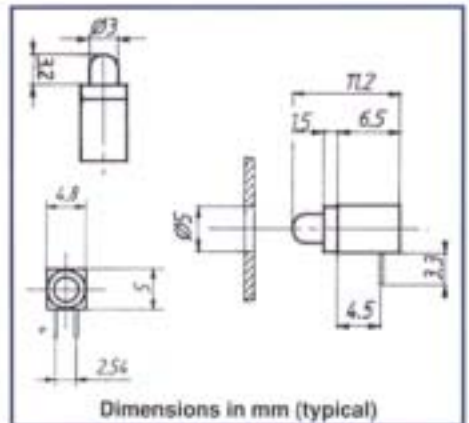


KDE 375

SERIES KDE 373

Ø 3 mm LED

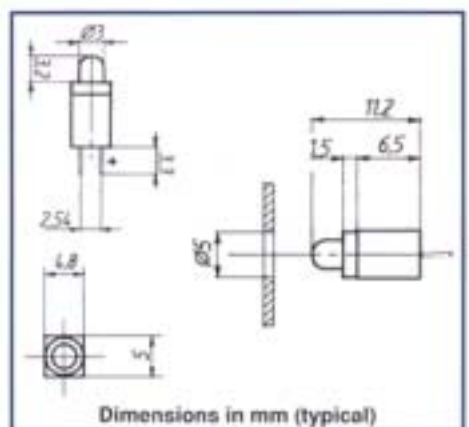
TYPE	EMITTED COLOUR *	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 373 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDE 373 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 373 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 373 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 373 - B	RED GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 373 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 373 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDE 373 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 373 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 373 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KDE 374

Ø 3 mm LED

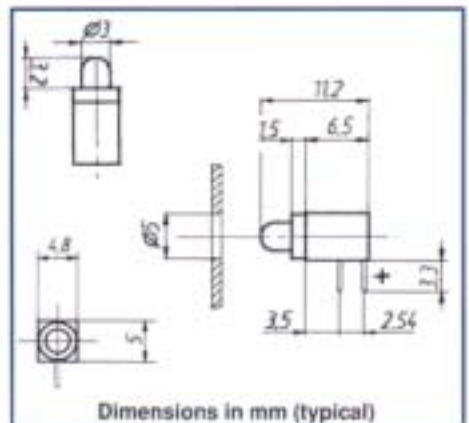
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 374 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDE 374 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 374 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 374 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 374 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 374 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 374 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDE 374 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 374 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 374 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES KDE 375

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 375 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDE 375 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 375 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 375 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 375 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 375 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 375 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDE 375 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 375 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 375 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ⚡ HOUSING: BLACK NORYL, UL94 V-0
- ⚡ SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- ⚡ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ⚡ CLIMATE: DIN 40040
- ⚡ TERMINATIONS: □ 0,5 mm leads
- ⚡ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ⚡ 5 V & 12 V INTEGRATED RESISTOR
- ⚡ BICOLOUR/TRICOLOUR & BIPOLAR
- ⚡ BLUE OR WHITE LEDs
- ⚡ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ⚡ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ⚡ FLAT TOP & BLINKING LEDs
- ⚡ SPECIAL LEDs ON REQUEST



KDE 370



KDE 371

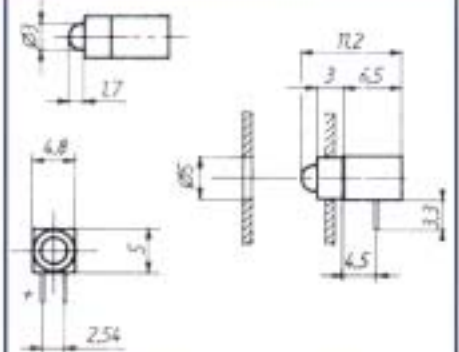


KDE 372

SERIES KDE 370

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 370 - R	RED	700	5	10	120	2.0	2.5	-55	25
KDE 370 - Y	YELLOW	590	12.5	10	120	2.1	2.5	to	30
KDE 370 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KDE 370 - S	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KDE 370 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5	*	25
KDE 370 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 370 - RL	RED	625	2	2	120	1.8	2.5	-55	7.5
KDE 370 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KDE 370 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KDE 370 - IL	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA

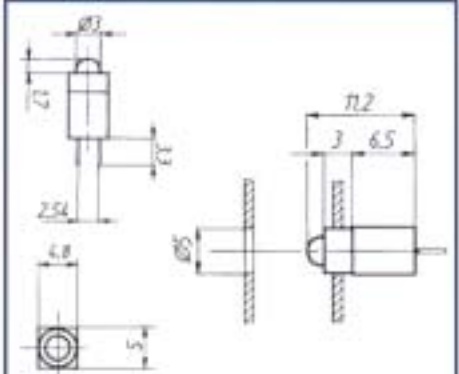


Dimensions in mm (typical)

SERIES KDE 371

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 371 - R	RED	700	5	10	120	2.0	2.5	-55	25
KDE 371 - Y	YELLOW	590	12.5	10	120	2.1	2.5	to	30
KDE 371 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KDE 371 - S	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KDE 371 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 371 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 371 - RL	RED	625	2	2	120	1.8	2.5	-55	7.5
KDE 371 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KDE 371 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KDE 371 - IL	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA

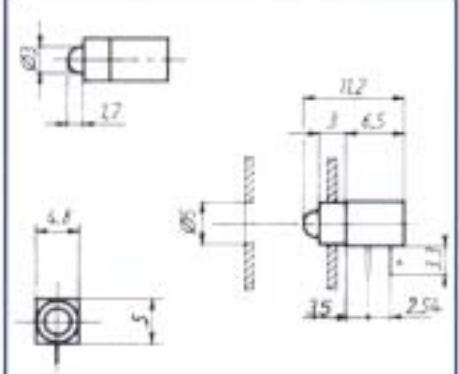


Dimensions in mm (typical)

SERIES KDE 372

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 372 - R	RED	700	5	10	120	2.0	2.5	-55	25
KDE 372 - Y	YELLOW	590	12.5	10	120	2.1	2.5	to	30
KDE 372 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KDE 372 - S	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KDE 372 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 372 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 372 - RL	RED	625	2	2	120	1.8	2.5	-55	7.5
KDE 372 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KDE 372 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KDE 372 - IL	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



KDE 33



K 34

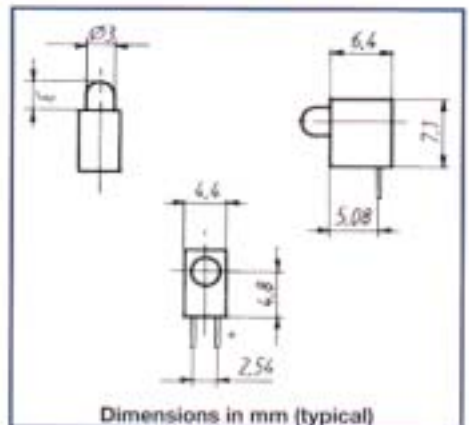


KHLMP 3.101

SERIES KDE 33

Ø 3 mm LED

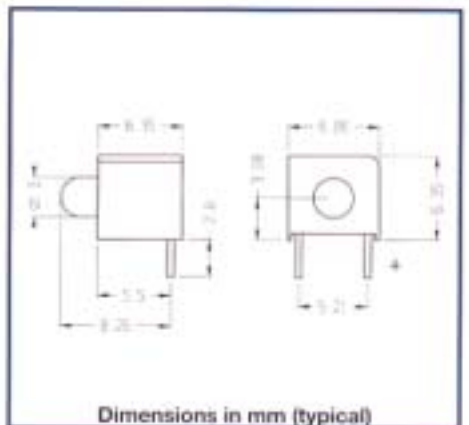
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 33 - R	RED	700	5	10	120	2.0	2.5	-55	25
KDE 33 - Y	YELLOW	590	12.5	10	120	2.1	2.5	to	30
KDE 33 - G	GREEN	565	12.5	10	120	2.2	2.5	to	25
KDE 33 - S	SUPER RED	625	20	10	120	2.0	2.5	to	30
KDE 33 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5	+100	25
KDE 33 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 33 - RL	RED	625	2	2	120	1.8	2.5	-55	7.5
KDE 33 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KDE 33 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KDE 33 - IL	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	md	mA	DEGREE°	V	V	°C	mA



SERIES K 34

Ø 3 mm LED

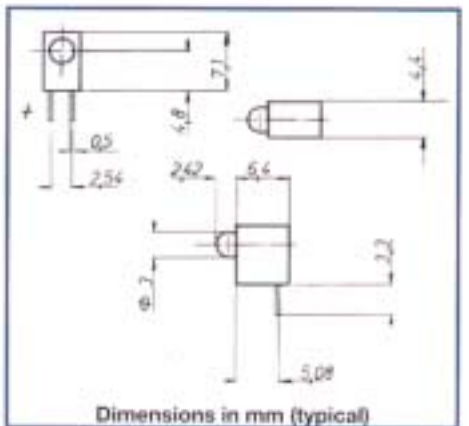
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
K 34 - R	RED	700	3.5	10	120	2.1	2.5	-55	25
K 34 - G	GREEN	565	6	10	120	2.2	2.5	to	25
K 34 - Y	YELLOW	590	20	10	120	2.1	2.5	to	30
K 34 - S	SUPER RED	625	20	10	120	2.0	2.5	+100	30
LOW CURRENT									
K 34 - RL	RED	625	1.8	2	50	1.8	2.5	-55	7.5
K 34 - YL	YELLOW	590	1.6	2	50	1.9	2.7	to	7.5
K 34 - GL	GREEN	567	1.6	2	50	1.8	2.5	to	7.5
5 & 12 VOLT									
K 34 - RS	RED	625	8	10	120	1.8	2.5	-55	10
K 34 - YS	YELLOW	590	8	10	120	1.9	2.7	to	10
K 34 - GS	GREEN	565	8	10	120	1.9	2.5	to	10
K 34 - R12	RED	625	8	10	120	1.8	2.5	to	14
K 34 - G12	GREEN	565	8	10	120	1.9	2.5	+100	14
K 34 - Y12	YELLOW	590	8	10	120	1.9	2.7	+100	14
QUALITY TESTED 100%	DIFFUSED	nm	md	mA	DEGREE°	V	V	°C	mA



SERIES KHLMP 3.101

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KHLMP 3.101 - R	RED	635	7	10	60	2.2	2.5	-55	30
KHLMP 3.101 - Y	YELLOW	583	7	10	60	2.3	2.5	to	20
KHLMP 3.101 - G	GREEN	565	7	10	60	2.3	2.5	+100	25
LOW CURRENT									
KHLMP 3.101 - RL	RED	635	1.8	2	50	1.8	2.5	-55	7.5
KHLMP 3.101 - YL	YELLOW	583	1.6	2	50	1.9	2.7	to	7.5
KHLMP 3.101 - GL	GREEN	567	1.6	2	50	1.8	2.5	+100	7.5
5 & 12 VOLT									
KHLMP 3.101 - RS	RED	625	8	10	120	1.8	2.5	-55	10
KHLMP 3.101 - YS	YELLOW	590	8	10	120	1.9	2.7	to	10
KHLMP 3.101 - GS	GREEN	565	8	10	120	1.9	2.5	to	10
KHLMP 3.101 - R12	RED	625	8	10	120	1.8	2.5	to	14
KHLMP 3.101 - G12	GREEN	565	8	10	120	1.9	2.5	+100	14
KHLMP 3.101 - Y12	YELLOW	590	8	10	120	1.9	2.7	+100	14
QUALITY TESTED 100%	DIFFUSED	nm	md	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0.5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

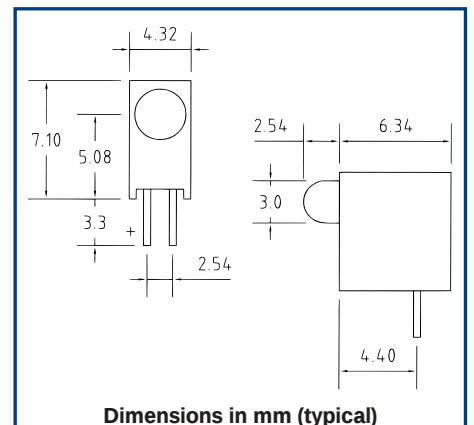
OPTIONS AVAILABLE

- ◆ 5 V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



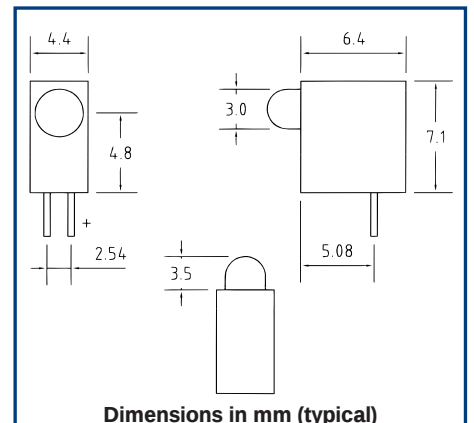
SERIES K 351 Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 351 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 351 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 351 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 351 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 351 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 351 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 351 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 351 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 351 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 351 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



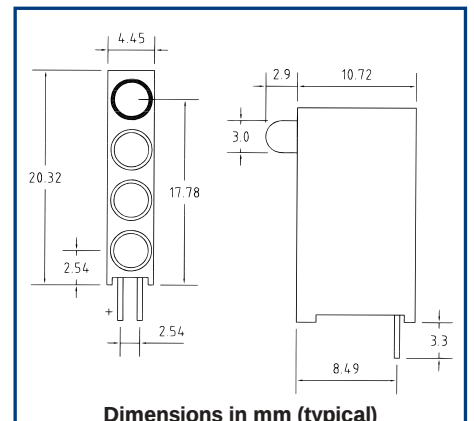
SERIES KDE 335 Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 335 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 335 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KDE 335 - G	GREEN	565	12,5	10	120	2,2	2,5		25
KDE 335 - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 335 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 335 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 335 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KDE 335 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KDE 335 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 335 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES K 361 Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 361 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 361 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 361 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 361 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 361 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 361 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 361 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 361 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 361 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 361 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



KUS 30



KUS 31

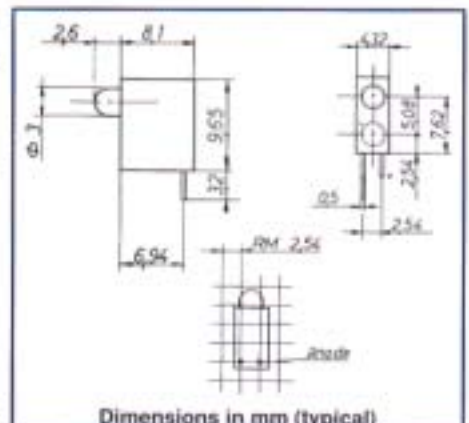


KDE 38

SERIES KUS 30

Ø 3 mm LED

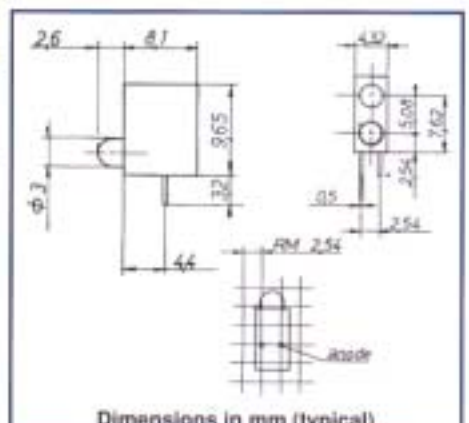
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KUS 30 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KUS 30 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KUS 30 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KUS 30 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KUS 30 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KUS 30 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KUS 30 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KUS 30 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KUS 30 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KUS 30 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KUS 31

Ø 3 mm LED

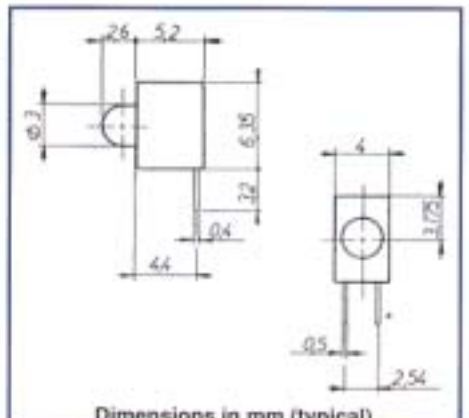
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KUS 31 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KUS 31 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KUS 31 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KUS 31 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KUS 31 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KUS 31 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KUS 31 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KUS 31 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KUS 31 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KUS 31 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KDE 38

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 38 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDE 38 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 38 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 38 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 38 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 38 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 38 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDE 38 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 38 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 38 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0.5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

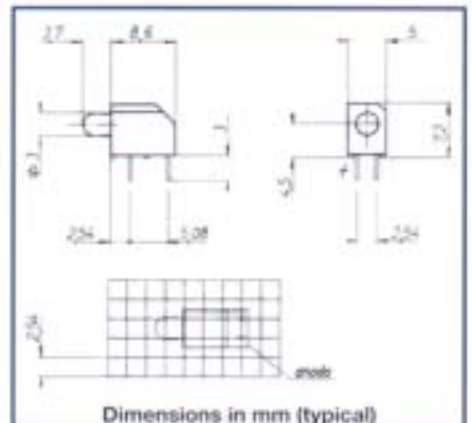
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



SERIES K 444

Ø 3 mm LED

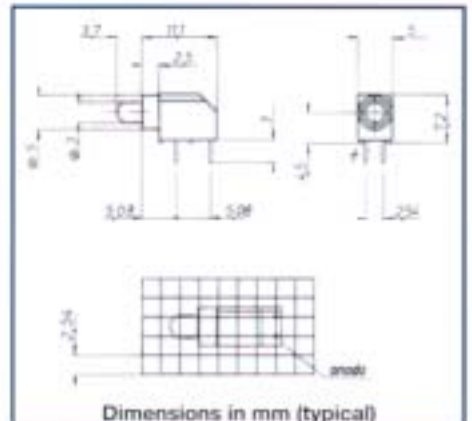
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
K 444 - R	RED	700	5	10	120	2.0	2.5	- 55	25
K 444 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
K 444 - G	GREEN	565	12.5	10	120	2.2	2.5		to 25
K 444 - S	SUPER RED	625	20	10	120	2.0	2.5	to 30	30
K 444 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5	+ 100	25
K 444 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
K 444 - RL	RED	625	2	2	120	1.8	2.5	- 55	7.5
K 444 - YL	YELLOW	590	2	2	120	1.9	2.7	to 7.5	7.5
K 444 - GL	GREEN	565	2	2	120	1.9	2.5	to 7.5	7.5
K 444 - IL	IPER RED	660	20	2	120	1.85	2.5	+ 100	7.5
QUALITY TESTED 100%	DIFFUSED	mm	med	mA	DEGREE*	V	V	°C	mA



SERIES K 465

Ø 3 mm LED

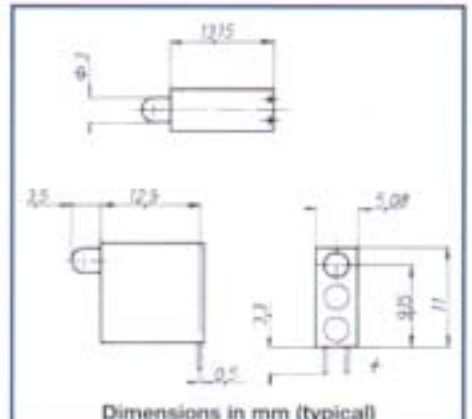
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
K 465 - R	RED	700	5	10	120	2.0	2.5	- 55	25
K 465 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
K 465 - G	GREEN	565	12.5	10	120	2.2	2.5		to 25
K 465 - S	SUPER RED	625	20	10	120	2.0	2.5	to	30
K 465 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5	+ 100	25
K 465 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
K 465 - RL	RED	625	2	2	120	1.8	2.5	- 55	7.5
K 465 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
K 465 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
K 465 - IL	IPER RED	660	20	2	120	1.85	2.5	+ 100	7.5
QUALITY TESTED 100%	DIFFUSED	mm	med	mA	DEGREE*	V	V	°C	mA



SERIES KTP 301

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KTP 301 - R	RED	700	5	10	120	2.0	2.5	- 55	25
KTP 301 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KTP 301 - G	GREEN	565	12.5	10	120	2.2	2.5		to 25
KTP 301 - S	SUPER RED	625	20	10	120	2.0	2.5	to 30	
KTP 301 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5	+ 100	25
KTP 301 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KTP 301 - RL	RED	625	2	2	120	1.8	2.5	- 55	7.5
KTP 301 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KTP 301 - GL	GREEN	565	2	2	120	1.9	2.5		to 7.5
KTP 301 - IL	IPER RED	660	20	2	120	1.85	2.5	+ 100	7.5
QUALITY TESTED 100%	DIFFUSED	mm	med	mA	DEGREE*	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs • SPECIAL LEDs ON REQUEST



KDE 34



KDE 35

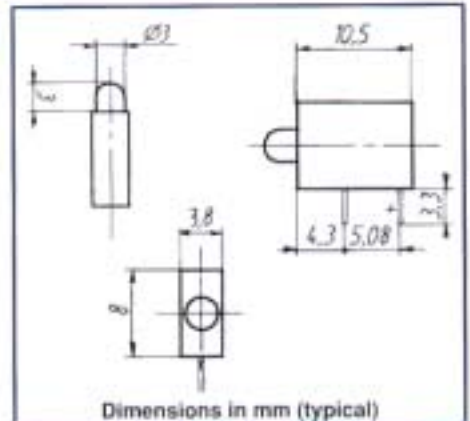


KDE 36

SERIES KDE 34

Ø 3 mm LED

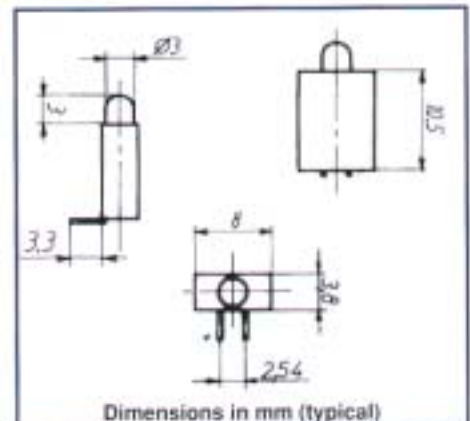
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 34 - R	RED	700	5	10	120	2.0	2.5	-55 to +100	25
KDE 34 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 34 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 34 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 34 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 34 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 34 - RL	RED	625	2	2	120	1.8	2.5	-55 to +100	7.5
KDE 34 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 34 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 34 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KDE 35

Ø 3 mm LED

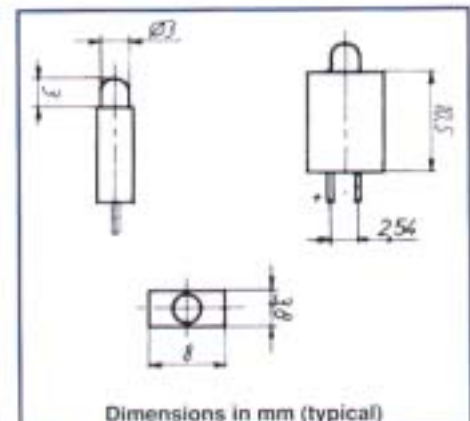
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 35 - R	RED	700	5	10	120	2.0	2.5	-55 to +100	25
KDE 35 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 35 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 35 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 35 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 35 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 35 - RL	RED	625	2	2	120	1.8	2.5	-55 to +100	7.5
KDE 35 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 35 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 35 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KDE 36

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 36 - R	RED	700	5	10	120	2.0	2.5	-55 to +100	25
KDE 36 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 36 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 36 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 36 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 36 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 36 - RL	RED	625	2	2	120	1.8	2.5	-55 to +100	7.5
KDE 36 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 36 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 36 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

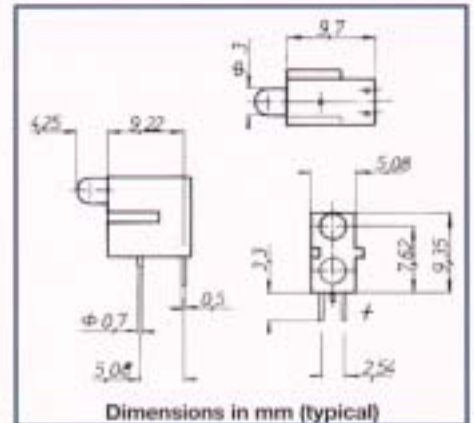
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



SERIES K 190

Ø 3 mm LED

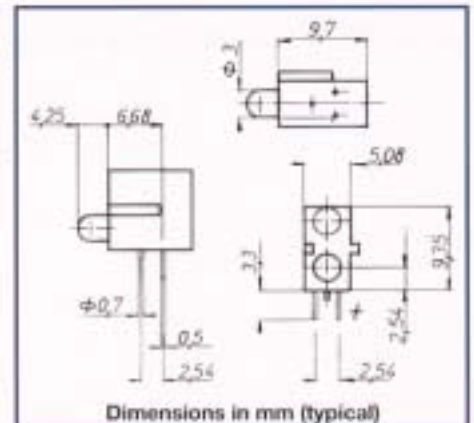
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
K 190 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 190 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 190 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 190 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 190 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K 190 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 190 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K 190 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
K 190 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
K 190 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES K 191

Ø 3 mm LED

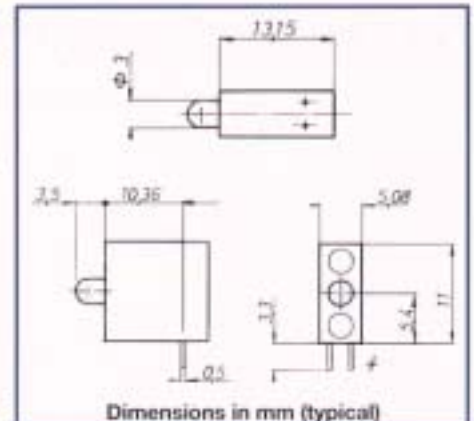
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
K 191 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 191 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 191 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 191 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 191 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K 191 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 191 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K 191 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
K 191 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
K 191 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES KTP 300

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KTP 300 - R	RED	700	5	10	120	2.0	2.5	- 55	25
KTP 300 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KTP 300 - G	GREEN	565	12.5	10	120	2.2	2.5		to
KTP 300 - S	SUPER RED	625	20	10	120	2.0	2.5	+ 100	30
KTP 300 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KTP 300 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KTP 300 - RL	RED	625	2	2	120	1.8	2.5	- 55	7.5
KTP 300 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KTP 300 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KTP 300 - IL	IPER RED	660	20	2	120	1.85	2.5	+ 100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



KDE 30



KDE 301

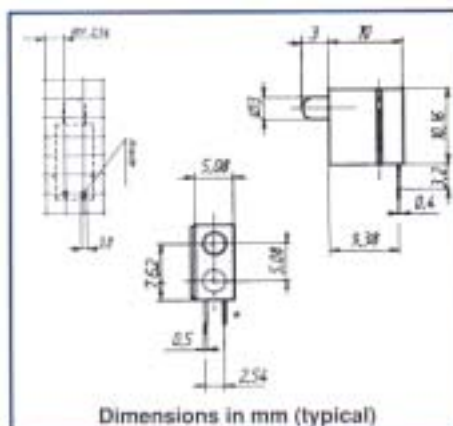


KDE 31

SERIES KDE 30

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 30 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDE 30 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 30 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 30 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 30 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 30 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 30 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDE 30 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 30 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 30 - BL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcad	mA	DEGREE	V	V		C

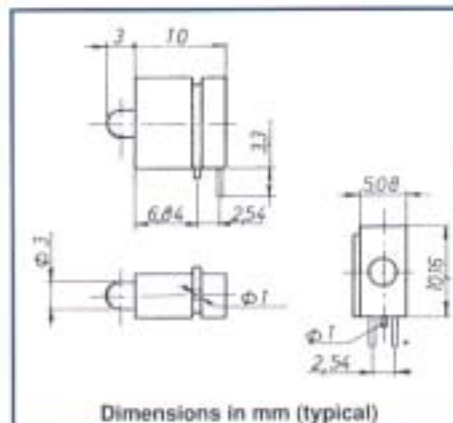


Dimensions in mm (typical)

SERIES KDE 301

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 301 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDE 301 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 301 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 301 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 301 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KDE 301 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 301 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDE 301 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 301 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 301 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	mm	mc	mA	DEGREE	V	V	°C	mA

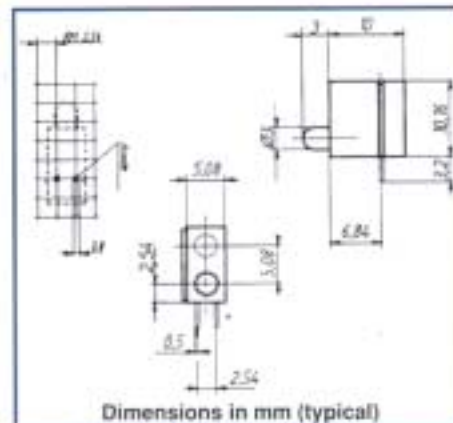


Dimensions in mm (typical)

SERIES KDE 31

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 31 - R	RED	700	5	10	120	2.0	2.5	-55 to +100	25
KDE 31 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KDE 31 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KDE 31 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KDE 31 - B	RED/GREEN	625/660	12.5	20	100	2.0	2.5		25
KDE 31 - I	I.P.E.R. RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 31 - RL	RED	625	2	2	120	1.8	2.5	-55 to +100	7.5
KDE 31 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 31 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 31 - IL	I.P.E.R. RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- 🔦 HOUSING: BLACK NORYL, UL94 V-0
- 🔦 SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- 🔦 FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- 🔦 CLIMATE: DIN 40040
- 🔦 TERMINATIONS: □ 0,5 mm leads
- 🔦 Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ⚡ 5 V & 12 V INTEGRATED RESISTOR
- 💡 BICOLOUR/TRICOLOUR & BIPOLAR
- 💡 BLUE OR WHITE LEDs
- 💡 ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- 💡 LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- 💡 FLAT TOP & BLINKING LEDs ⚡ SPECIAL LEDs ON REQUEST



KDE 30-15KV



KDE 301-15KV

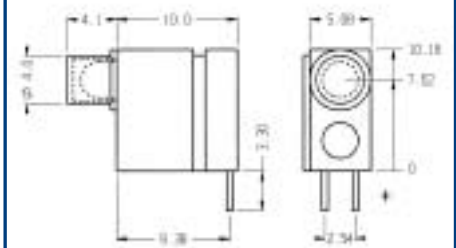


KDE 31-15KV

SERIES KDE 30-15KV

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 30-15KV - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 30-15KV - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KDE 30-15KV - G	GREEN	565	12,5	10	120	2,2	2,5		25
KDE 30-15KV - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 30-15KV - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 30-15KV - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 30-15KV - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KDE 30-15KV - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KDE 30-15KV - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 30-15KV - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

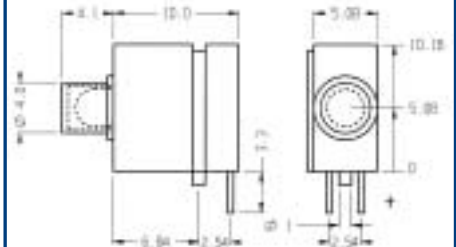


Dimensions in mm (typical)

SERIES KDE 301-15KV

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 301-15KV - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 301-15KV - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KDE 301-15KV - G	GREEN	565	12,5	10	120	2,2	2,5		25
KDE 301-15KV - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 301-15KV - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 301-15KV - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 301-15KV - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KDE 301-15KV - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KDE 301-15KV - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 301-15KV - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

SERIES KDE 31-15KV

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KDE 31-15KV - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KDE 31-15KV - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
KDE 31-15KV - G	GREEN	565	12,5	10	120	2,2	2,5		25
KDE 31-15KV - S	SUPER RED	625	20	10	120	2,0	2,5		30
KDE 31-15KV - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
KDE 31-15KV - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
KDE 31-15KV - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KDE 31-15KV - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
KDE 31-15KV - GL	GREEN	565	2	2	120	1,9	2,5		7,5
KDE 31-15KV - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



K 1805



K 1806

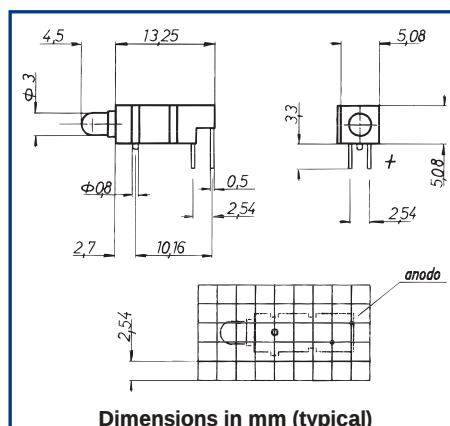


K 1807

SERIES K 1805

Ø 3 mm LED

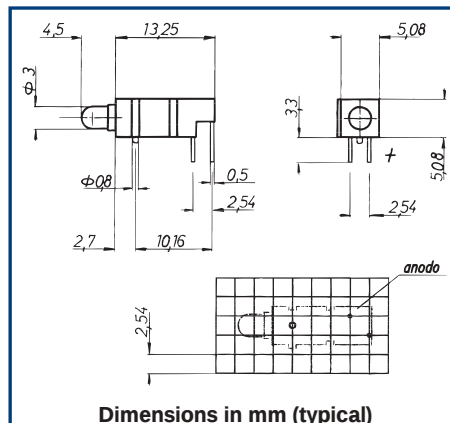
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 1805 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 1805 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 1805 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 1805 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 1805 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 1805 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 1805 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 1805 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 1805 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 1805 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES K 1806

Ø 3 mm LED

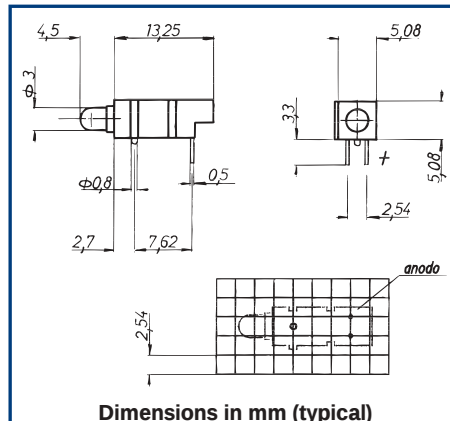
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 1806 - R	RED	700	5	10	120	2,0	2,5	- 55	25
K 1806 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 1806 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
K 1806 - S	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
K 1806 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 1806 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 1806 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K 1806 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 1806 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
K 1806 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES K 1807

Ø 3 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 1807 - R	RED	700	5	10	120	2,0	2,5	- 55	25
K 1807 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 1807 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
K 1807 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 1807 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K 1807 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 1807 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K 1807 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 1807 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
K 1807 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

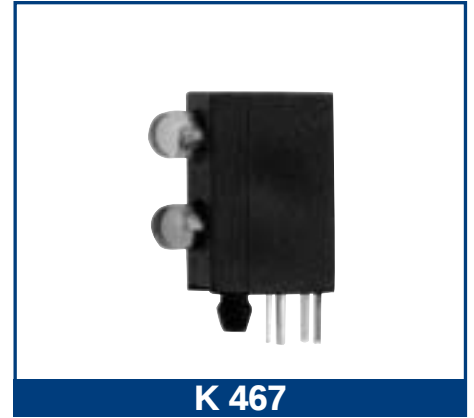


MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

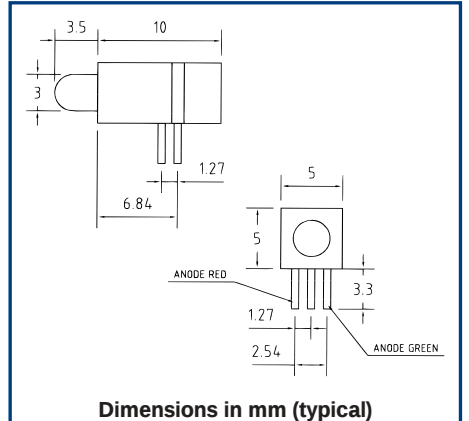
- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



SERIES K 328

Ø 3 mm LED

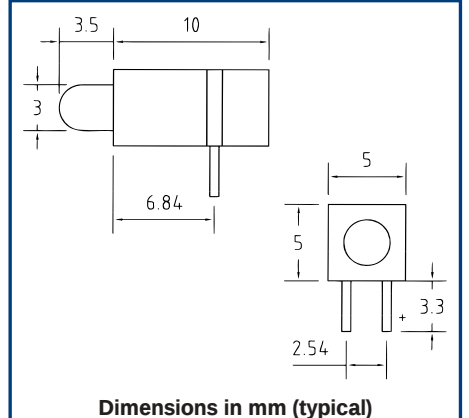
TYPE	EMITTED COLOUR		LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	(BICOLOUR)	PEAK	TYP.	IF			TYP.	MAX		
K 328 - EGW	RED/GREEN	625/565	40	20	100	2,2	2,5		- 55 to + 100	30
K 328 - EYW	RED/YELLOW	625/590	20	20	100	2,2	2,5			25
K 328 - GYW	GREEN/YELLOW	625/590	20	20	100	2,2	2,5			30
QUALITY TESTED 100%		DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES K 327

Ø 3 mm LED

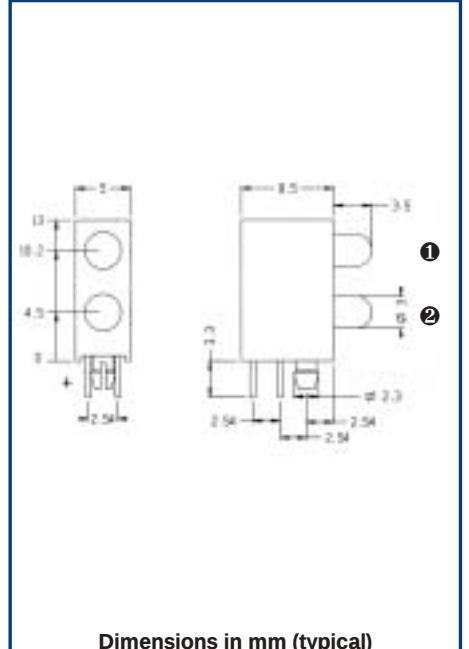
TYPE	EMITTED COLOUR		LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF			TYP.	MAX		
K 327 - R	RED	700	5	10	120	2,0	2,5		- 55 to + 100	25
K 327 - Y	YELLOW	590	12,5	10	120	2,1	2,5			30
K 327 - G	GREEN	565	12,5	10	120	2,2	2,5			25
K 327 - S	SUPER RED	625	20	10	120	2,0	2,5		+ 100	30
K 327 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5			25
K 327 - I	IPER RED	660	100	20	120	1,85	2,5			30
LOW CURRENT										
K 327 - RL	RED	625	2	2	120	1,8	2,5		- 55 to + 100	7,5
K 327 - YL	YELLOW	590	2	2	120	1,9	2,7			7,5
K 327 - GL	GREEN	565	2	2	120	1,9	2,5			7,5
K 327 - IL	IPER RED	660	20	2	120	1,85	2,5			7,5
QUALITY TESTED 100%		DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

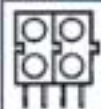


SERIES K 467

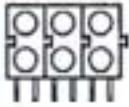
Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF			TYP.	MAX		
K 467 - RR	RED	RED	700	5	10	120	2,0	2,5		- 55 to + 100	25
K 467 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5			25
K 467 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5			30
K 467 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		+ 100	30
K 467 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5			30
MULTICOLOURED											
K 467 - GR	GREEN	RED									
K 467 - YR	YELLOW	RED									
K 467 - YG	YELLOW	GREEN									
K 467 - SG	SUPER RED	GREEN									
K 467 - SY	SUPER RED	YELLOW									
K 467 - RG	RED	GREEN									
K 467 - RY	RED	YELLOW									
K 467 - GY	GREEN	YELLOW									
K 467 - GS	GREEN	SUPER RED									
K 467 - YS	YELLOW	SUPER RED									
BICOLOUR											
K 467 - EGW	RED/GREEN		625/565	40	20	100	2,2	2,5		- 55 to + 100	30
K 467 - EYW	RED/YELLOW		625/590	20	20	100	2,2	2,5			25
K 467 - GYW	GREEN/YELLOW		625/565	20	20	100	2,2	2,5			30
QUALITY TESTED 100%		DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA	





KDC 302/2...



KDC 302/3...



KDC 302/4...

EXAMPLE



KDC 302



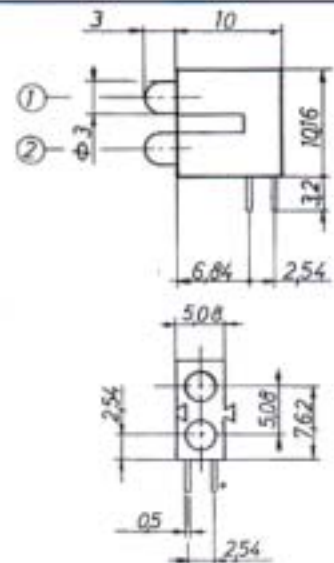
KDE 32

SERIES KDC 302

Ø 3 mm LED

TYPE	EMITTED COLOUR		PEAK	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②		TYP.	IF		TYP.	MAX.		
KDC 302 - RR	RED	RED	700	5	10	120	2.0	2.5	-55	25
KDC 302 - YY	YELLOW	YELLOW	590	12.5	10	120	2.1	2.5	to	30
KDC 302 - GG	GREEN	GREEN	565	12.5	10	120	2.2	2.5	to	25
KDC 302 - SS	SUPER RED	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KDC 302 - II	IPER RED	IPER RED	660	100	20	120	1.85	2.5		30
MULTICOLOURED										
KDC 302 - GR	GREEN	RED								
KDC 302 - YR	YELLOW	RED								
KDC 302 - YG	YELLOW	GREEN								
KDC 302 - SG	SUPER RED	GREEN								
KDC 302 - SY	SUPER RED	YELLOW								
KDC 302 - RG	RED	GREEN								
KDC 302 - RY	RED	YELLOW								
KDC 302 - GY	GREEN	YELLOW								
KDC 302 - GS	GREEN	SUPER RED								
KDC 302 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDC 302-RR-L	RED	RED	625	2	2	120	1.8	2.5	-55	7.5
KDC 302-YY-L	YELLOW	YELLOW	590	2	2	120	1.9	2.5	to	7.5
KDC 302-GG-L	GREEN	GREEN	565	2	2	120	1.9	2.5	to	7.5
KDC 302-IL	IPER RED	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE	V	V	°C	mA

TECHNICAL DATAS:
SEE ABOVE



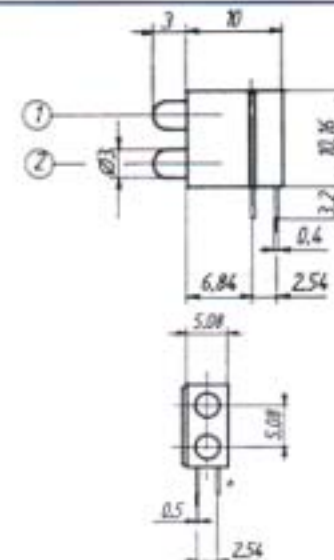
Dimensions in mm (typical)

SERIES KDE 32

Ø 3 mm LED

TYPE	EMITTED COLOUR		PEAK	LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②		TYP.	IF		TYP.	MAX.		
KDE 32 - RR	RED	RED	700	5	10	120	2.0	2.5	-55	25
KDE 32 - YY	YELLOW	YELLOW	590	12.5	10	120	2.1	2.5	to	30
KDE 32 - GG	GREEN	GREEN	565	12.5	10	120	2.2	2.5	to	25
KDE 32 - SS	SUPER RED	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KDE 32 - II	IPER RED	IPER RED	660	100	20	120	1.85	2.5		30
MULTICOLOURED										
KDE 32 - GR	GREEN	RED								
KDE 32 - YR	YELLOW	RED								
KDE 32 - YG	YELLOW	GREEN								
KDE 32 - SG	SUPER RED	GREEN								
KDE 32 - SY	SUPER RED	YELLOW								
KDE 32 - RG	RED	GREEN								
KDE 32 - RY	RED	YELLOW								
KDE 32 - GY	GREEN	YELLOW								
KDE 32 - GS	GREEN	SUPER RED								
KDE 32 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDE 32-RR-L	RED	RED	625	2	2	120	1.8	2.5	-55	7.5
KDE 32-YY-L	YELLOW	YELLOW	590	2	2	120	1.9	2.5	to	7.5
KDE 32-GG-L	GREEN	GREEN	565	2	2	120	1.9	2.5	to	7.5
KDE 32-IL	IPER RED	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE	V	V	°C	mA

TECHNICAL DATAS:
SEE ABOVE



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0.5 mm leads
- Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

OPTIONS AVAILABLE

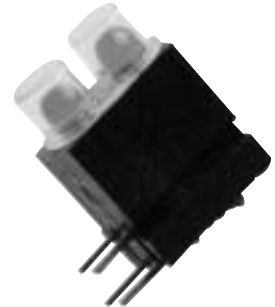
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



KDE 30-15KV



KDE 31-15KV

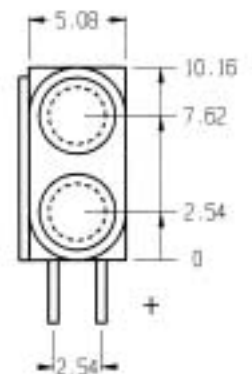
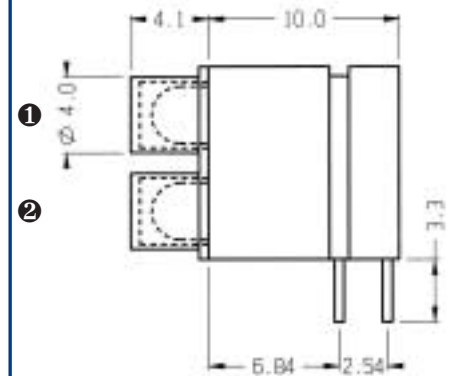


KDE 32-15KV

SERIES KDE 32-15KV

Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT	
	①	②	PEAK	TYP.	IF		TYP.	MAX			
KDE 32-15KV - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25	
KDE 32-15KV - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25	
KDE 32-15KV - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30	
KDE 32-15KV - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30	
KDE 32-15KV - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30	
MULTICOLOURED											
KDE 32-15KV - GR	GREEN	RED									
KDE 32-15KV - YR	YELLOW	RED									
KDE 32-15KV - YG	YELLOW	GREEN		FOR TECHNICAL DATAS:							
KDE 32-15KV - SG	SUPER RED	GREEN		SEE ABOVE							
KDE 32-15KV - SY	SUPER RED	YELLOW									
KDE 32-15KV - RG	RED	GREEN									
KDE 32-15KV - RY	RED	YELLOW									
KDE 32-15KV - GY	GREEN	YELLOW									
KDE 32-15KV - GS	GREEN	SUPER RED									
KDE 32-15KV - YS	YELLOW	SUPER RED									
LOW CURRENT											
KDE 32-15KV - RRL	RED	RED	625	2	2	120	1,8	2,5		7,5	
KDE 32-15KV - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5	
KDE 32-15KV - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5	
KDE 32-15KV - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5	
MULTICOLOURED											
LOW CURRENT											
KDE 32-15KV - GRL	GREEN	RED									
KDE 32-15KV - YRL	YELLOW	RED									
KDE 32-15KV - YGL	YELLOW	GREEN		FOR TECHNICAL DATAS:							
KDE 32-15KV - SGL	SUPER RED	GREEN		SEE ABOVE							
KDE 32-15KV - SYL	SUPER RED	YELLOW									
KDE 32-15KV - RGL	RED	GREEN									
KDE 32-15KV - RYL	RED	YELLOW									
KDE 32-15KV - GYL	GREEN	YELLOW									
KDE 32-15KV - GSL	GREEN	SUPER RED									
KDE 32-15KV - YSL	YELLOW	SUPER RED									
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA	



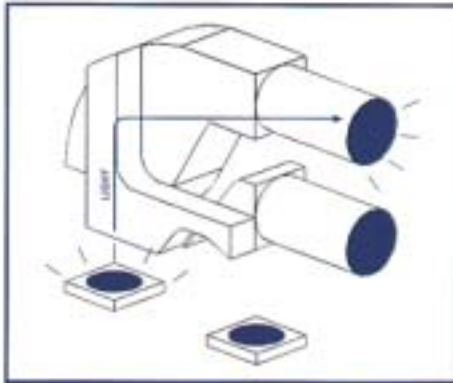
Dimensions in mm (typical)

MATERIAL SPECIFICATION

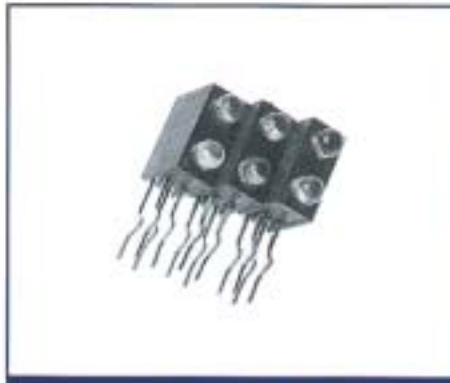
- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



In catalogue Light Pipes



EXAMPLE

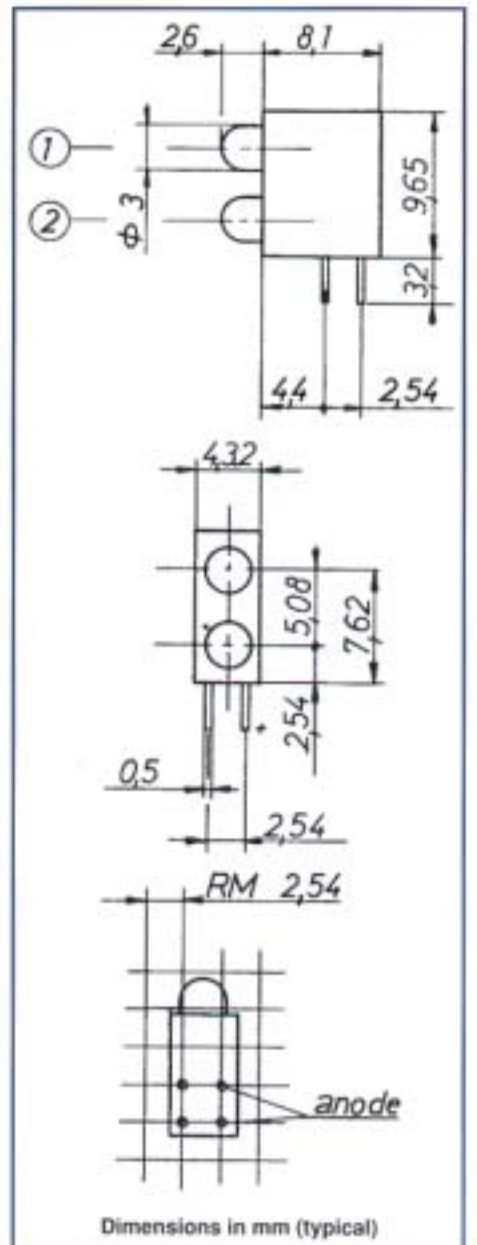


KUS 32

SERIES KUS 32

Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF		TYP.	MAX		
KUS 32 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
KUS 32 - YY	YELLOW	YELLOW	590	12,5	10	120	2,1	2,5		30
KUS 32 - GG	GREEN	GREEN	565	12,5	10	120	2,2	2,5		25
KUS 32 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5	+ 100	30
KUS 32 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
KUS 32 - GR	GREEN	RED								
KUS 32 - YR	YELLOW	RED								
KUS 32 - YG	YELLOW	GREEN								
KUS 32 - SG	SUPER RED	GREEN		TECHNICAL DATAS:						
KUS 32 - SY	SUPER RED	YELLOW		SEE ABOVE						
KUS 32 - RG	RED	GREEN								
KUS 32 - RY	RED	YELLOW								
KUS 32 - GY	GREEN	YELLOW								
KUS 32 - GS	GREEN	SUPER RED								
KUS 32 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KUS 32 - RRL	RED	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
KUS 32 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
KUS 32 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
KUS 32 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
MULTICOLOURED										
LOW CURRENT										
KUS 32 - GRIL	GREEN	RED								
KUS 32 - YRL	YELLOW	RED								
KUS 32 - YGL	YELLOW	GREEN								
KUS 32 - SGL	SUPER RED	GREEN		TECHNICAL DATAS:						
KUS 32 - SYL	SUPER RED	YELLOW		SEE ABOVE						
KUS 32 - RGL	RED	GREEN								
KUS 32 - RYL	RED	YELLOW								
KUS 32 - GYL	GREEN	YELLOW								
KUS 32 - GSL	GREEN	SUPER RED								
KUS 32 - YSL	YELLOW	SUPER RED								
QUALITY TESTED	DIFFUSED		nm	nm	mA	DEGREE	V	V	°C	mA
100%										

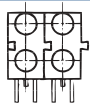


MATERIAL SPECIFICATION

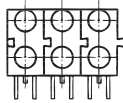
- ☞ HOUSING: BLACK NORYL, UL94 V-0
- ☞ SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- ☞ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ☞ CLIMATE: DIN 40040
- ☞ TERMINATIONS: □ 0,5 mm leads
- ☞ Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

OPTIONS AVAILABLE

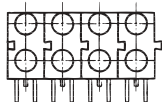
- ☞ 5 V & 12 V INTEGRATED RESISTOR
- ☞ BICOLOUR/TRICOLOUR & BIPOLAR
- ☞ BLUE OR WHITE LEDs
- ☞ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ☞ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ☞ FLAT TOP & BLINKING LEDs
- ☞ SPECIAL LEDs ON REQUEST



K 109/2



K 109/3

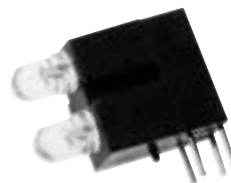


K 109/4

EXAMPLE



EXAMPLE



K 109

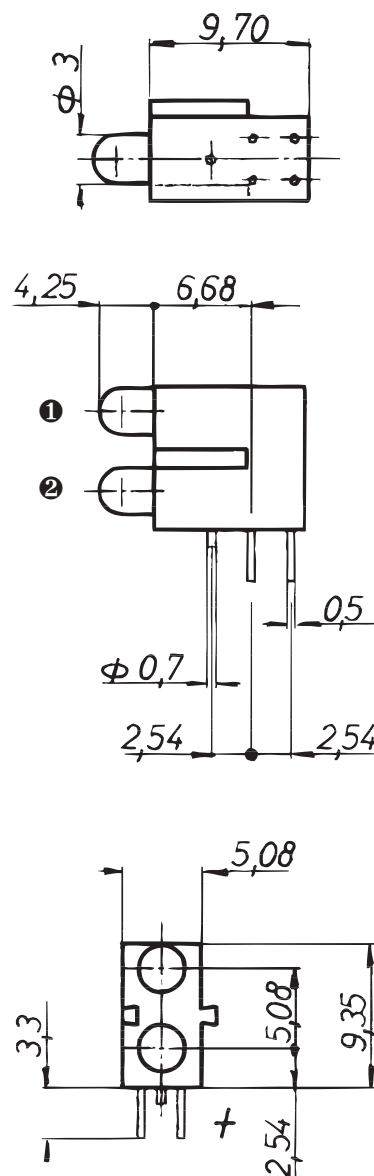
SERIES K 109

Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF		TYP.	MAX		
K 109 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 109 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
K 109 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
K 109 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
K 109 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 109 - GR	GREEN	RED								
K 109 - YR	YELLOW	RED								
K 109 - YG	YELLOW	GREEN		FOR TECHNICAL DATAS:						
K 109 - SG	SUPER RED	GREEN		SEE ABOVE						
K 109 - SY	SUPER RED	YELLOW								
K 109 - RG	RED	GREEN								
K 109 - RY	RED	YELLOW								
K 109 - GY	GREEN	YELLOW								
K 109 - GS	GREEN	SUPER RED								
K 109 - YS	YELLOW	SUPER RED								
LOW CURRENT										
K 109 - RRL	RED	RED	625	2	2	120	1,8	2,5		7,5
K 109 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
K 109 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
K 109 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
MULTICOLOURED										
LOW CURRENT										
K 109 - GRL	GREEN	RED								
K 109 - YRL	YELLOW	RED								
K 109 - YGL	YELLOW	GREEN		FOR TECHNICAL DATAS:						
K 109 - SGL	SUPER RED	GREEN		SEE ABOVE						
K 109 - SYL	SUPER RED	YELLOW								
K 109 - RGL	RED	GREEN								
K 109 - RYL	RED	YELLOW								
K 109 - GYL	GREEN	YELLOW								
K 109 - GSL	GREEN	SUPER RED								
K 109 - YSL	YELLOW	SUPER RED								
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA

FOR TECHNICAL DATAS:
SEE ABOVE

FOR TECHNICAL DATAS:
SEE ABOVE



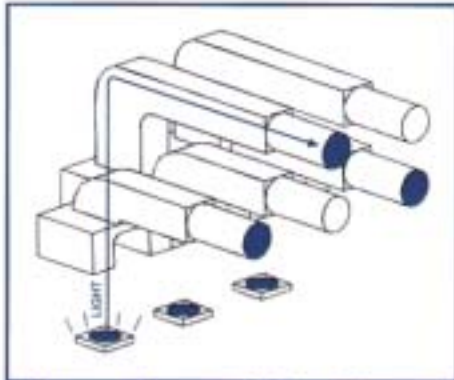
Dimensions in mm (typical)

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



In catalogue Light Pipes



KTP 302



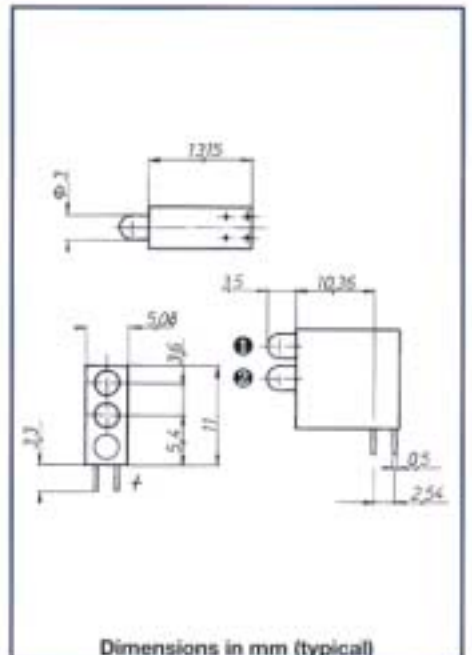
KTP 304

SERIES KTP 302

Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF		TYP.	MAX.		
KTP 302 - RR	RED	RED	700	5	10	120	2.0	2.5	-55	25
KTP 302 - YY	YELLOW	YELLOW	590	12.5	10	120	2.2	2.5	to	25
KTP 302 - GG	GREEN	GREEN	565	12.5	10	120	2.1	2.5	to	30
KTP 302 - SS	SUPER RED	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KTP 302 - II	IPER RED	IPER RED	660	100	20	120	1.85	2.5		30
MULTICOLOURED										
KTP 302 - GR	GREEN	RED								
KTP 302 - YR	YELLOW	RED								
KTP 302 - YG	YELLOW	GREEN								
KTP 302 - SG	SUPER RED	GREEN								
KTP 302 - SY	SUPER RED	YELLOW								
KTP 302 - RG	RED	GREEN								
KTP 302 - RY	RED	YELLOW								
KTP 302 - GY	GREEN	YELLOW								
KTP 302 - GS	GREEN	SUPER RED								
KTP 302 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KTP 302 - RRL	RED	RED	625	2	2	120	1.8	2.5	-55	7.5
KTP 302 - YYL	YELLOW	YELLOW	590	2	2	120	1.9	2.5	to	7.5
KTP 302 - GGL	GREEN	GREEN	565	2	2	120	1.9	2.5	to	7.5
KTP 302 - IIL	IPER RED	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	nm	mA	DEGREE°	V	V	°C	mA	

FOR TECHNICAL DATAS:
SEE ABOVE



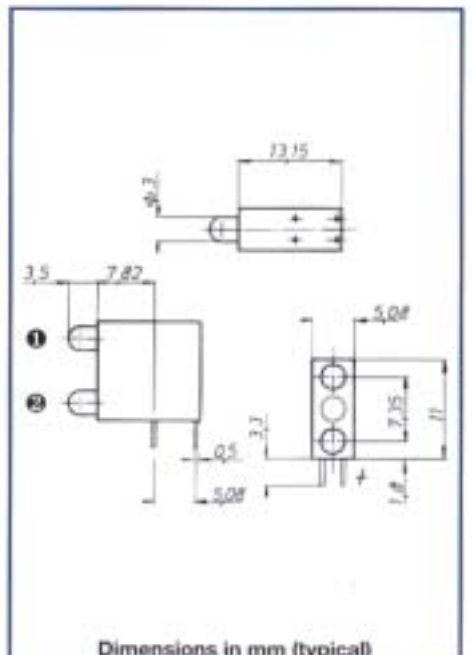
Dimensions in mm (typical)

SERIES KTP 304

Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF		TYP.	MAX.		
KTP 304 - RR	RED	RED	700	5	10	120	2.0	2.5	-55	25
KTP 304 - YY	YELLOW	YELLOW	590	12.5	10	120	2.2	2.5	to	25
KTP 304 - GG	GREEN	GREEN	565	12.5	10	120	2.1	2.5	to	30
KTP 304 - SS	SUPER RED	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KTP 304 - II	IPER RED	IPER RED	660	100	20	120	1.85	2.5		30
MULTICOLOURED										
KTP 304 - GR	GREEN	RED								
KTP 304 - YR	YELLOW	RED								
KTP 304 - YG	YELLOW	GREEN								
KTP 304 - SG	SUPER RED	GREEN								
KTP 304 - SY	SUPER RED	YELLOW								
KTP 304 - RG	RED	GREEN								
KTP 304 - RY	RED	YELLOW								
KTP 304 - GY	GREEN	YELLOW								
KTP 304 - GS	GREEN	SUPER RED								
KTP 304 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KTP 304 - RRL	RED	RED	625	2	2	120	1.8	2.5	-55	7.5
KTP 304 - YYL	YELLOW	YELLOW	590	2	2	120	1.9	2.5	to	7.5
KTP 304 - GGL	GREEN	GREEN	565	2	2	120	1.9	2.5	to	7.5
KTP 304 - IIL	IPER RED	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	nm	mA	DEGREE°	V	V	°C	mA	

FOR TECHNICAL DATAS:
SEE ABOVE



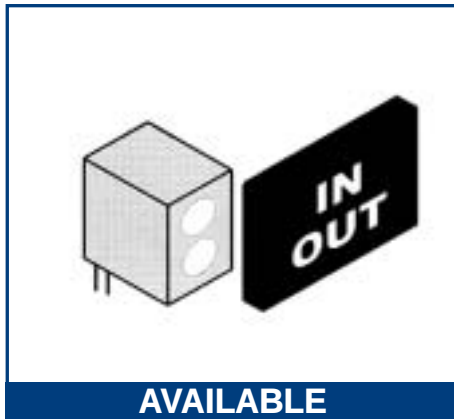
Dimensions in mm (typical)

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100,000 hours • low current 250,000 hours

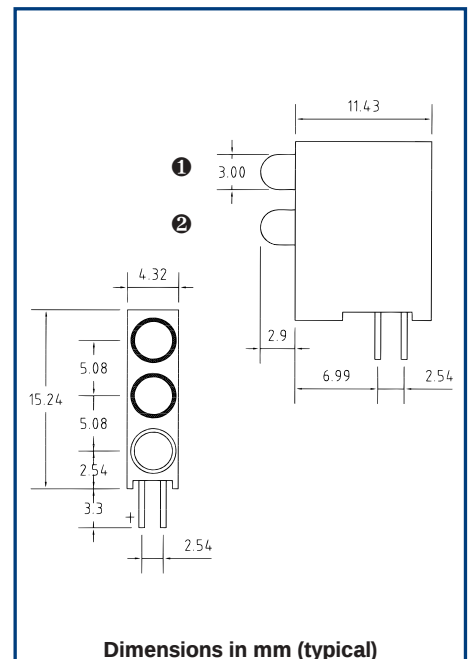
OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



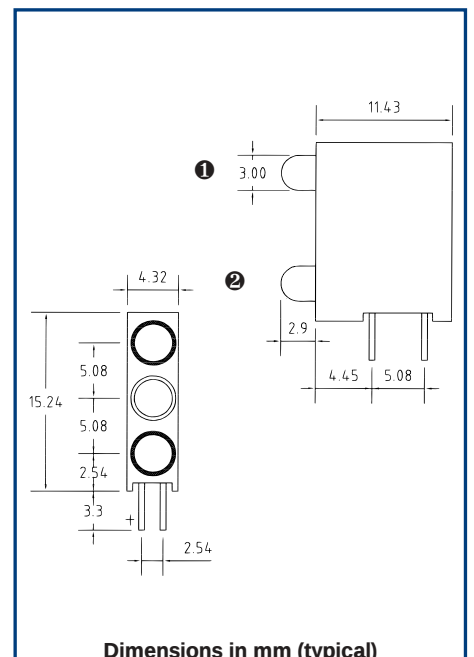
SERIES K 362 Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF		TYP.	MAX		
K 362 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 362 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
K 362 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
K 362 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
K 362 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 362 - GR	GREEN	RED								
K 362 - YR	YELLOW	RED								
K 362 - YG	YELLOW	GREEN								
K 362 - SG	SUPER RED	GREEN								
K 362 - SY	SUPER RED	YELLOW								
K 362 - RG	RED	GREEN								
K 362 - RY	RED	YELLOW								
K 362 - GY	GREEN	YELLOW								
K 362 - GS	GREEN	SUPER RED								
K 362 - YS	YELLOW	SUPER RED								
LOW CURRENT										
K 362 - RRL	RED	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 362 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
K 362 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
K 362 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA



SERIES K 364 Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF		TYP.	MAX		
K 364 - RR	RED	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 364 - YY	YELLOW	YELLOW	590	12,5	10	120	2,2	2,5		25
K 364 - GG	GREEN	GREEN	565	12,5	10	120	2,1	2,5		30
K 364 - SS	SUPER RED	SUPER RED	625	20	10	120	2,0	2,5		30
K 364 - II	IPER RED	IPER RED	660	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 364 - GR	GREEN	RED								
K 364 - YR	YELLOW	RED								
K 364 - YG	YELLOW	GREEN		FOR TECHNICAL DATAS: SEE ABOVE						
K 364 - SG	SUPER RED	GREEN								
K 364 - SY	SUPER RED	YELLOW								
K 364 - RG	RED	GREEN								
K 364 - RY	RED	YELLOW								
K 364 - GY	GREEN	YELLOW								
K 364 - GS	GREEN	SUPER RED								
K 364 - YS	YELLOW	SUPER RED								
LOW CURRENT										
K 364 - RRL	RED	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 364 - YYL	YELLOW	YELLOW	590	2	2	120	1,9	2,5		7,5
K 364 - GGL	GREEN	GREEN	565	2	2	120	1,9	2,5		7,5
K 364 - IIL	IPER RED	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED		nm	mcd	mA	DEGREE°	V	V	°C	mA

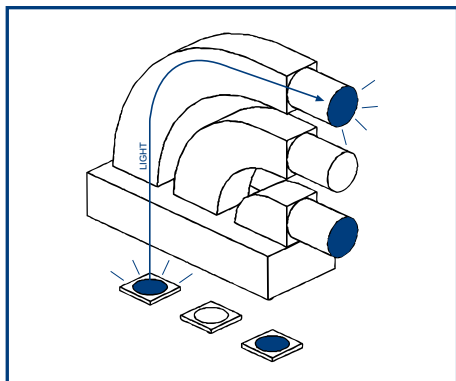


MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



In catalogue Light Pipes



AVAILABLE



KTP 303

SERIES KTP 303

Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	③	TYP.	IF		TYP.	MAX		
KTP 303 - R	RED	RED	RED	5	10	120	2,0	2,5	- 55	25
KTP 303 - G	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5	to	25
KTP 303 - Y	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5	+ 100	30
KTP 303 - S	SUPER RED	SUPER RED	SUPER RED	20	10	120	2,0	2,5		30
KTP 303 - I	IPER RED	IPER RED	IPER RED	100	20	120	1,85	2,5		30
MULTICOLOURED										
KTP 303 - RYG	RED	YELLOW	GREEN							
KTP 303 - GYR	GREEN	YELLOW	RED							
KTP 303 - RGY	RED	GREEN	YELLOW							
KTP 303 - GRY	GREEN	RED	YELLOW							
KTP 303 - YRG	YELLOW	RED	GREEN							
KTP 303 - YGR	YELLOW	GREEN	RED							
KTP 303 - RGG	RED	GREEN	GREEN							
KTP 303 - YGG	YELLOW	GREEN	GREEN							
KTP 303 - GYY	GREEN	YELLOW	YELLOW							
KTP 303 - GRR	GREEN	RED	RED							
KTP 303 - RGG	RED	GREEN	GREEN							
KTP 303 - RRY	RED	RED	YELLOW							
LOW CURRENT										
KTP 303 - RL	RED	RED	RED	2	2	120	1,8	2,5	- 55	7,5
KTP 303 - GL	GREEN	GREEN	GREEN	2	2	120	1,9	2,5	to	7,5
KTP 303 - YL	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5	+ 100	7,5
KTP 303 - IL	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA	

PART NUMBERS EXAMPLES MULTICOLOURED:

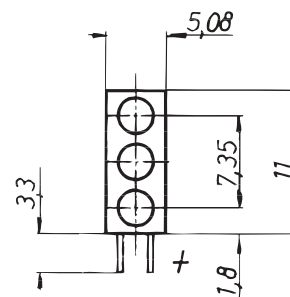
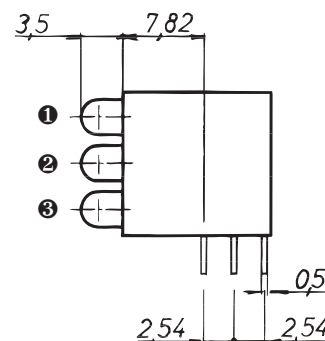
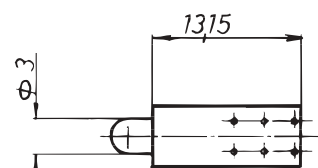
KTP 303 - R / G / Y - L

LED ① COLOUR (RED)

LED ② COLOUR (GREEN)

LED ③ COLOUR (YELLOW)

LOW CURRENT
(IF INQUIRED)



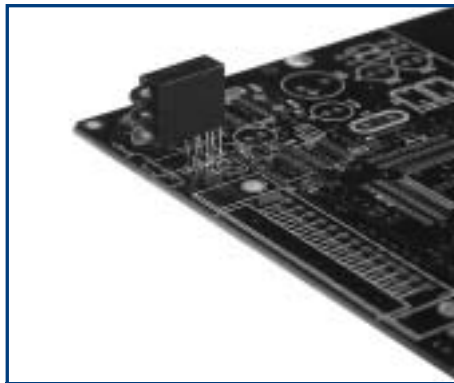
Dimensions in mm (typical)

MATERIAL SPECIFICATION

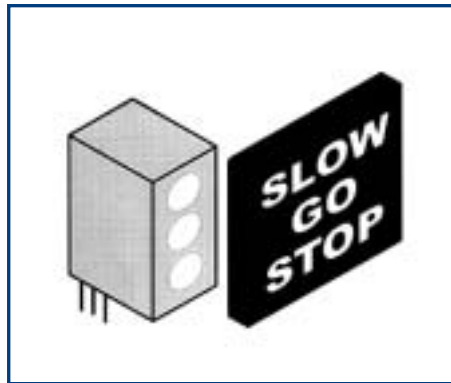
- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

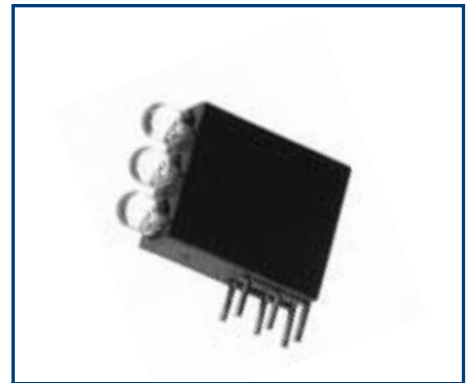
- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



AVAILABLE



AVAILABLE

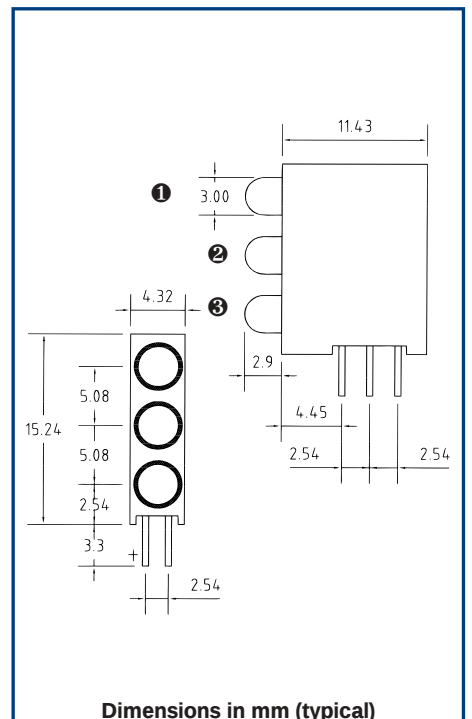


K 368

SERIES K 368

Ø 3 mm LED

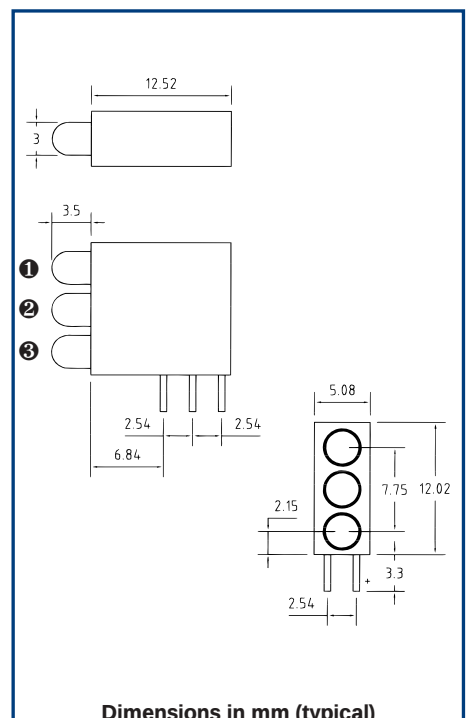
TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	③	TYP.	IF		TYP.	MAX		
K 368 - R	RED	RED	RED	5	10	120	2,0	2,5	- 55 to + 100	25
K 368 - G	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5		25
K 368 - Y	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5		30
K 368 - S	SUPER RED	SUPER RED	SUPER RED	20	10	120	2,0	2,5		30
K 368 - I	IPER RED	IPER RED	IPER RED	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 368 - RYG	RED	YELLOW	GREEN	FOR TECHNICAL DATAS: SEE ABOVE						
K 368 - GYR	GREEN	YELLOW	RED							
K 368 - RGY	RED	GREEN	YELLOW							
K 368 - GRY	GREEN	RED	YELLOW							
K 368 - YRG	YELLOW	RED	GREEN							
K 368 - YGR	YELLOW	GREEN	RED							
K 368 - RGG	RED	GREEN	GREEN							
K 368 - YGG	YELLOW	GREEN	GREEN							
K 368 - GYY	GREEN	YELLOW	YELLOW							
K 368 - GRR	GREEN	RED	RED							
K 368 - RGG	RED	GREEN	GREEN							
K 368 - RRY	RED	RED	YELLOW							
LOW CURRENT										
K 368 - RL	RED	RED	RED	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 368 - GL	GREEN	GREEN	GREEN	2	2	120	1,9	2,5		7,5
K 368 - YL	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5		7,5
K 368 - IL	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED			mcd	mA	DEGREE°	V	V	°C	mA



SERIES K 370

Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	③	TYP.	IF		TYP.	MAX		
K 370 - R	RED	RED	RED	5	10	120	2,0	2,5	- 55 to + 100	25
K 370 - G	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5		25
K 370 - Y	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5		30
K 370 - S	SUPER RED	SUPER RED	SUPER RED	20	10	120	2,0	2,5		30
K 370 - I	IPER RED	IPER RED	IPER RED	100	20	120	1,85	2,5		30
MULTICOLOURED										
K 370 - RYG	RED	YELLOW	GREEN	FOR TECHNICAL DATAS: SEE ABOVE						
K 370 - GYR	GREEN	YELLOW	RED							
K 370 - RGY	RED	GREEN	YELLOW							
K 370 - GRY	GREEN	RED	YELLOW							
K 370 - YRG	YELLOW	RED	GREEN							
K 370 - YGR	YELLOW	GREEN	RED							
K 370 - RGG	RED	GREEN	GREEN							
K 370 - YGG	YELLOW	GREEN	GREEN							
K 370 - GYY	GREEN	YELLOW	YELLOW							
K 370 - GRR	GREEN	RED	RED							
K 370 - RGG	RED	GREEN	GREEN							
K 370 - RRY	RED	RED	YELLOW							
LOW CURRENT										
K 370 - RL	RED	RED	RED	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 370 - GL	GREEN	GREEN	GREEN	2	2	120	1,9	2,5		7,5
K 370 - YL	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5		7,5
K 370 - IL	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED			mcd	mA	DEGREE°	V	V	°C	mA

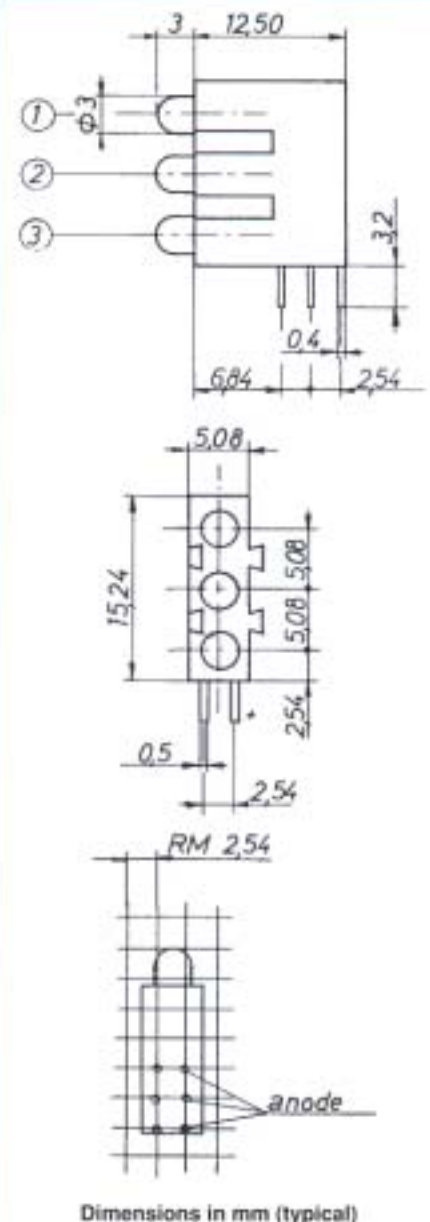




SERIES KTC 303

Ø 3 mm LED

TYPE	EMITTED COLOUR			LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	③	TYP.	IF		TYP.	MAX.		
KTC 303 - R	RED	RED	RED	5	10	120	2.0	2.5	-55	25
KTC 303 - G	GREEN	GREEN	GREEN	12,5	10	120	2.2	2.5	to	25
KTC 303 - Y	YELLOW	YELLOW	YELLOW	12,5	10	120	2.1	2.5	to	30
KTC 303 - S	SUPER RED	SUPER RED	S. RED	20	10	120	2.0	2.5	+100	30
KTC 303 - I	IPER RED	IPER RED	I. RED	100	20	120	1.85	2.5		30
MULTICOLOURED										
KTC 303 - RYG	RED	YELLOW	GREEN							
KTC 303 - GYR	GREEN	YELLOW	RED							
KTC 303 - RGY	RED	GREEN	YELLOW							
KTC 303 - GRY	GREEN	RED	YELLOW							
KTC 303 - YRG	YELLOW	RED	GREEN							
KTC 303 - YGR	YELLOW	GREEN	RED							
KTC 303 - RGG	RED	GREEN	GREEN							
KTC 303 - YGG	YELLOW	GREEN	GREEN							
KTC 303 - GYY	GREEN	YELLOW	YELLOW							
KTC 303 - GRR	GREEN	RED	RED							
KTC 303 - RRG	RED	RED	GREEN							
KTC 303 - RRY	RED	RED	YELLOW							
LOW CURRENT										
KTC 303 - RL	RED	RED	RED	2	2	120	1.8	2.5	-55	7.5
KTC 303 - GL	GREEN	GREEN	GREEN	2	2	120	1.9	2.5	to	7.5
KTC 303 - YL	YELLOW	YELLOW	YELLOW	2	2	120	1.8	2.5	to	7.5
KTC 303 - IL	IPER RED	IPER RED	IPER RED	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	mm	mm	mA	DEGREE	V	V	°C	mA	



PART NUMBERS EXAMPLES MULTICOLOURED:

KTC 303 - R / G / Y - L

LED ① COLOUR (RED)

LED ② COLOUR (GREEN)

LED ③ COLOUR (YELLOW)

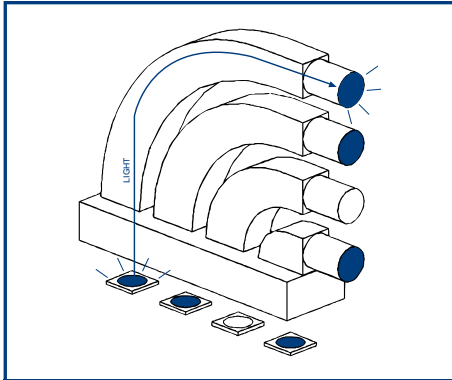
**LOW CURRENT
(IF INQUIRED)**

MATERIAL SPECIFICATION

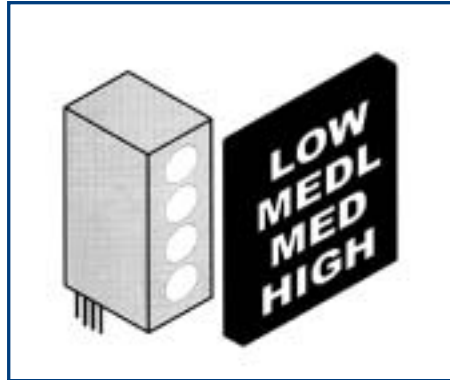
- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0.5 mm leads
- Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

OPTIONS AVAILABLE

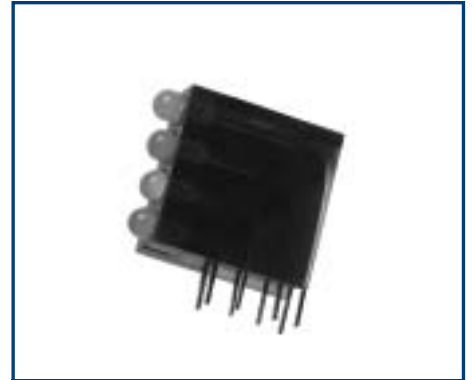
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



In catalogue Light Pipes



AVAILABLE



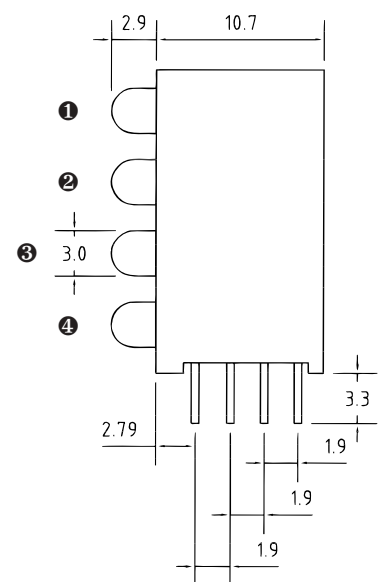
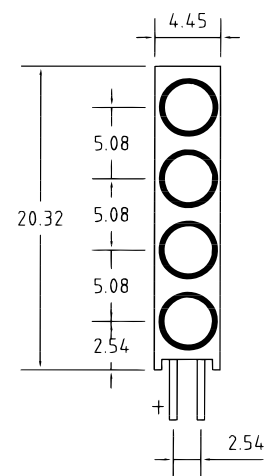
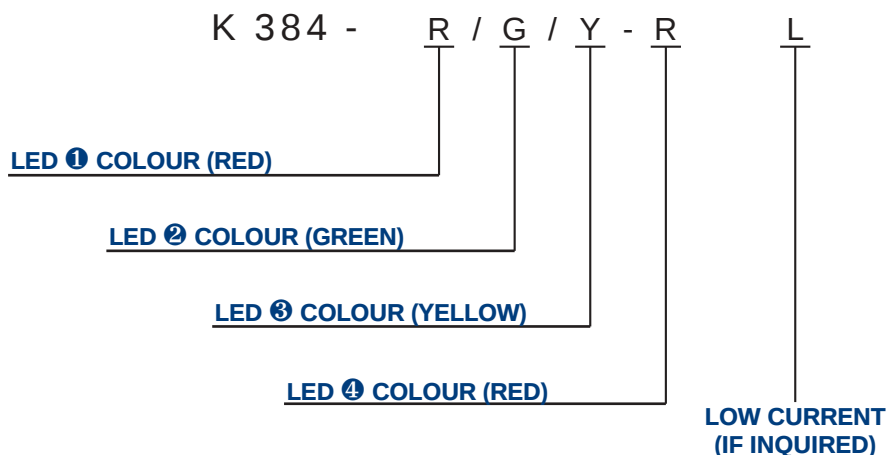
K 384

SERIES K 384

Ø 3 mm LED

TYPE	EMITTED COLOUR				LUMINOUS INTENSITY		FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	③	④	TYP.	IF		TYP.	MAX		
K 384 - R	RED	RED	RED	RED	5	10	120	2,0	2,5	- 55	25
K 384 - G	GREEN	GREEN	GREEN	GREEN	12,5	10	120	2,2	2,5	to	25
K 384 - Y	YELLOW	YELLOW	YELLOW	YELLOW	12,5	10	120	2,1	2,5	+ 100	30
K 384 - S	SUPER RED	SUPER RED	SUPER RED	SUPER RED	20	10	120	2,0	2,5		30
K 384 - I	IPER RED	IPER RED	IPER RED	IPER RED	100	20	120	1,85	2,5		30
MULTICOLOURED											
K 384 - RYG	RED	YELLOW	GREEN	GREEN							
K 384 - GYR	GREEN	YELLOW	RED	RED							
K 384 - RGY	RED	GREEN	YELLOW	YELLOW							
K 384 - GRY	GREEN	RED	YELLOW	YELLOW							
K 384 - YRG	YELLOW	RED	GREEN	GREEN							
K 384 - YGR	YELLOW	GREEN	RED	RED							
K 384 - RGG	RED	GREEN	GREEN	GREEN							
K 384 - YGG	YELLOW	GREEN	GREEN	GREEN							
K 384 - GYY	GREEN	YELLOW	YELLOW	YELLOW							
K 384 - GRR	GREEN	RED	RED	RED							
K 384 - RGG	RED	GREEN	GREEN	GREEN							
K 384 - RRY	RED	RED	YELLOW	YELLOW							
LOW CURRENT											
K 384 - RL	RED	RED	RED	RED	2	2	120	1,8	2,5	- 55	7,5
K 384 - GL	GREEN	GREEN	GREEN	GREEN	2	2	120	1,9	2,5	to	7,5
K 384 - YL	YELLOW	YELLOW	YELLOW	YELLOW	2	2	120	1,9	2,5	+ 100	7,5
K 384 - IL	IPER RED	IPER RED	IPER RED	IPER RED	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED				mcd	mA	DEGREE°	V	V	°C	mA

PART NUMBERS EXAMPLES MULTICOLOURED:



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



KML 2020



KML 2030

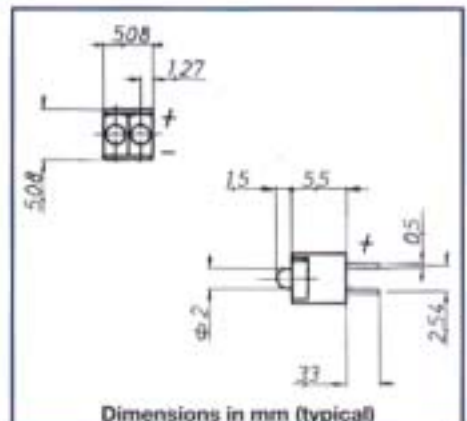


KML 2040

SERIES KML 2020

Ø 1,8 mm LED

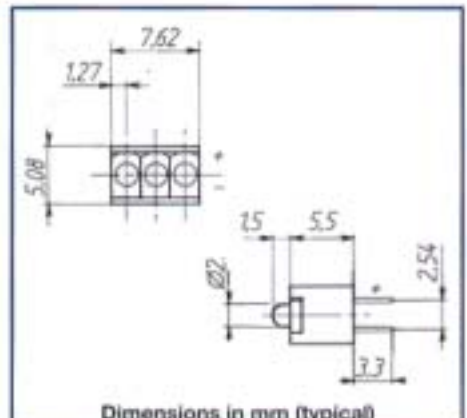
TYPE (2 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2020 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2020 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2020 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2020 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2020 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2020 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2020 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2020 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES KML 2030

Ø 1,8 mm LED

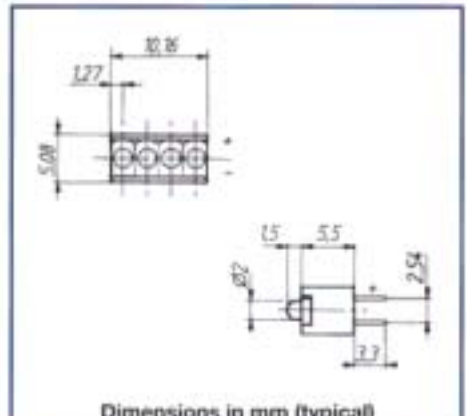
TYPE (3 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2030 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2030 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2030 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2030 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2030 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2030 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2030 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2030 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES KML 2040

Ø 1,8 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2040 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2040 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2040 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2040 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2040 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2040 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2040 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2040 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

FEATURES

- ◆ 1,8 mm sized led's save space
- ◆ colours can be mixed in a single housing
- ◆ facilitates PCB mounting and wave soldering
- ◆ vibration and shock resistance
- ◆ special leds on request



KML 2050



KML 2060

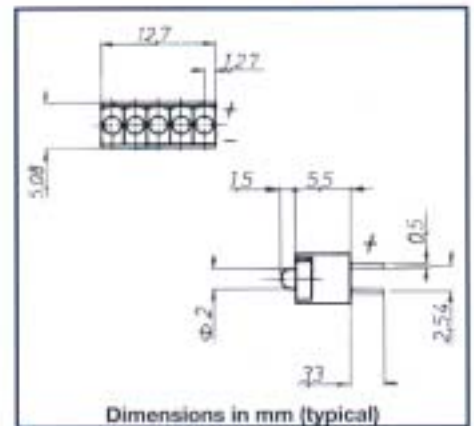


KML 2070

SERIES KML 2050

Ø 1,8 mm LED

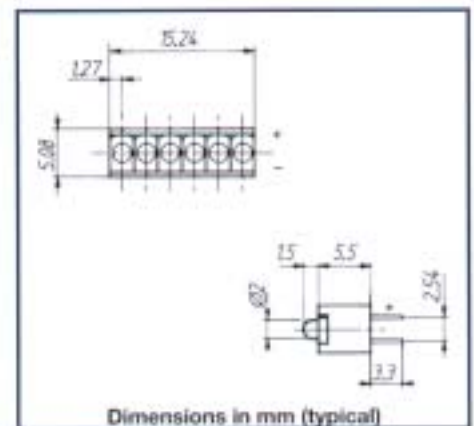
TYPE (5 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2050 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2050 - Y	YELLOW	580	5,5	10	40	2,1	2,5		30
KML 2050 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2050 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2050 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2050 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2050 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2050 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES KML 2060

Ø 1,8 mm LED

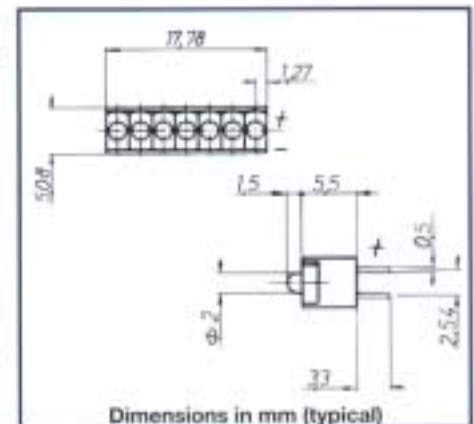
TYPE (6 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2060 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2060 - Y	YELLOW	580	5,5	10	40	2,1	2,5		30
KML 2060 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2060 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2060 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2060 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2060 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2060 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES KML 2070

Ø 1,8 mm LED

TYPE (7 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2070 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2070 - Y	YELLOW	580	5,5	10	40	2,1	2,5		30
KML 2070 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2070 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2070 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2070 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2070 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2070 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

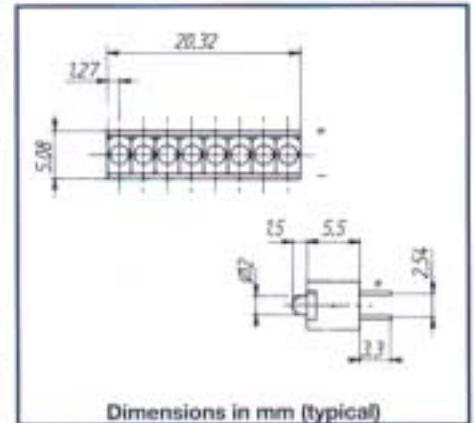
FEATURES

- ◆ 1,8 mm sized led's save space
- ◆ colours can be mixed in a single housing
- ◆ facilitates PCB mounting and wave soldering
- ◆ vibration and shock resistance
- ◆ special leds on request



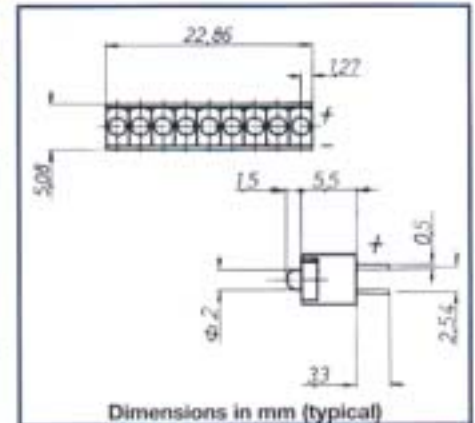
SERIES KML 2080 **Ø 1,8 mm LED**

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2080 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2080 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2080 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2080 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2080 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2080 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2080 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2080 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE*	V	V	°C	mA



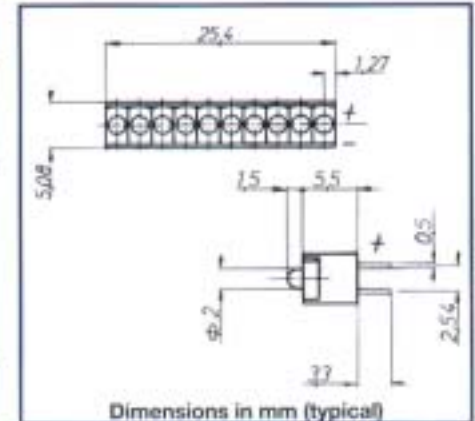
SERIES KML 2090 **Ø 1,8 mm LED**

TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2090 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2090 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2090 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2090 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2090 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2090 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2090 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2090 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE*	V	V	°C	mA



SERIES KML 2100 **Ø 1,8 mm LED**

TYPE (10 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KML 2100 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2100 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2100 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2100 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2100 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2100 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KML 2100 - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2100 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE*	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

FEATURES

- ◆ 1,8 mm sized led's save space
- ◆ colours can be mixed in a single housing
- ◆ facilitates PCB mounting and wave soldering
- ◆ vibration and shock resistance
- ◆ special leds on request



KM 2019



KM 2029

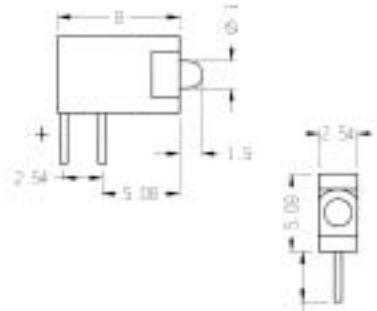


KM 2039

SERIES KM 2019

Ø 1,8 mm LED

TYPE (1 LED)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2019 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2019 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2019 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2019 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2019 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2019 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2019 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

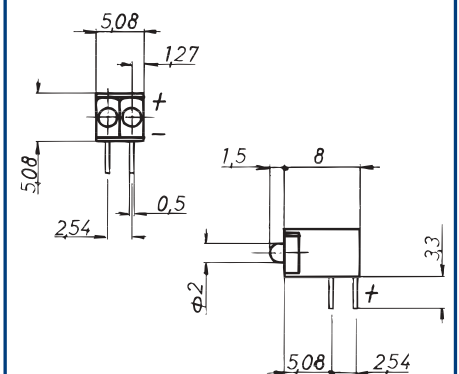


Dimensions in mm (typical)

SERIES KM 2029

Ø 1,8 mm LED

TYPE (2 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2029 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2029 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2029 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2029 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2029 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2029 - M	MULTICOLOURED	indicate colours from left to right (see drawing)							
KM 2029 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2029 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

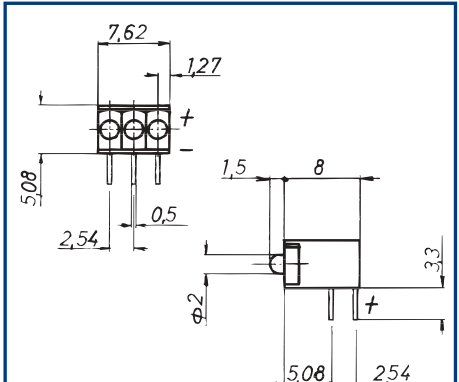


Dimensions in mm (typical)

SERIES KM 2039

Ø 1,8 mm LED

TYPE (3 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2039 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2039 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2039 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2039 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2039 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2039 - M	MULTICOLOURED	indicate colours from left to right (see drawing)							
KM 2039 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2039 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



Dimensions in mm (typical)

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

FEATURES

- ◆ 1,8 mm sized led's save space
- ◆ colours can be mixed in a single housing
- ◆ facilitates PCB mounting and wave soldering
- ◆ vibration and shock resistance
- ◆ special leds on request



KM 2049



KM 2059

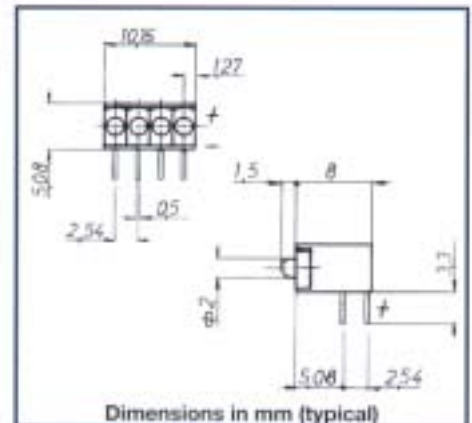


KM 2069

SERIES KM 2049

Ø 1,8 mm LED

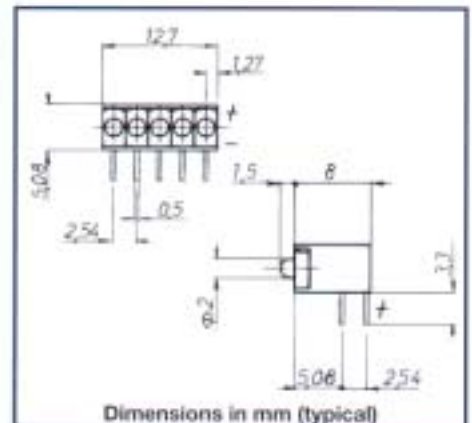
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KM 2049 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2049 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2049 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2049 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2049 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2049 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2049 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2049 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	md	mA	DEGREE°	V	V	°C	mA



SERIES KM 2059

Ø 1,8 mm LED

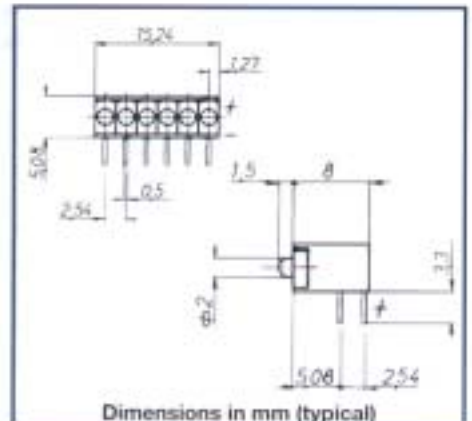
TYPE (5 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KM 2059 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2059 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2059 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2059 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2059 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2059 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2059 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2059 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	md	mA	DEGREE°	V	V	°C	mA



SERIES KM 2069

Ø 1,8 mm LED

TYPE (6 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KM 2069 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2069 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2069 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2069 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2069 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2069 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2069 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2069 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	md	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

FEATURES

- ◆ 1,8 mm sized led's save space
- ◆ colours can be mixed in a single housing
- ◆ facilitates PCB mounting and wave soldering
- ◆ vibration and shock resistance
- ◆ special leds on request



KM 2079



KM 2089

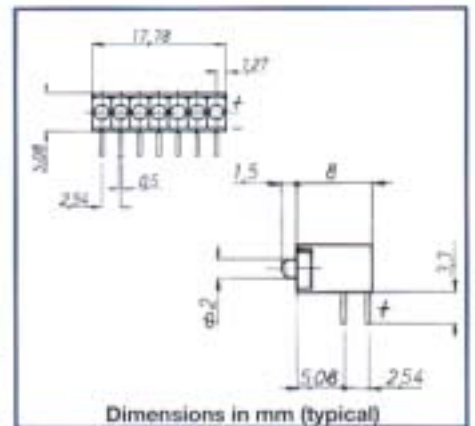


KM 2099

SERIES KM 2079

Ø 1,8 mm LED

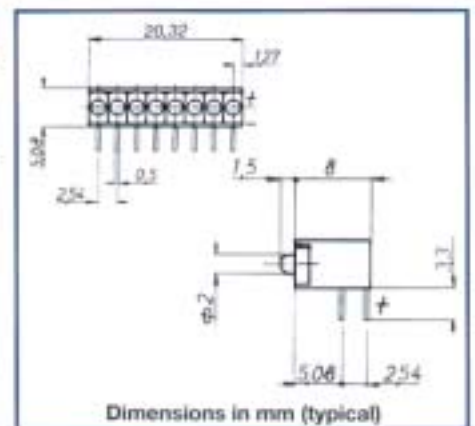
TYPE (7 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2079 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2079 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2079 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2079 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2079 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2079 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2079 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2079 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES KM 2089

Ø 1,8 mm LED

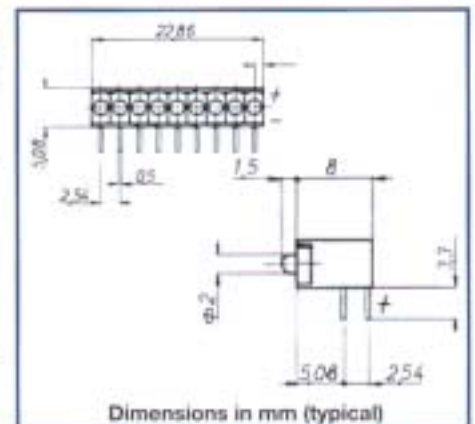
TYPE (8 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2089 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2089 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2089 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2089 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2089 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2089 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2089 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2089 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES KM 2099

Ø 1,8 mm LED

TYPE (9 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2099 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2099 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2099 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2099 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2099 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2099 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2099 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2099 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

FEATURES

- ◆ 1,8 mm sized led's save space
- ◆ colours can be mixed in a single housing
- ◆ facilitates PCB mounting and wave soldering
- ◆ vibration and shock resistance
- ◆ special leds on request



KM 2109



KML 2030/RA

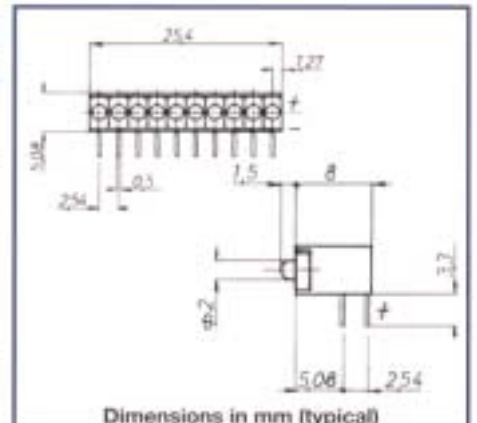


KML 2040/RA

SERIES KM 2109

Ø 1,8 mm LED

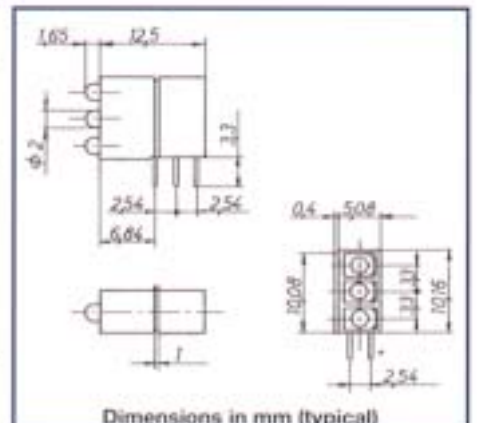
TYPE (10 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KM 2109 - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KM 2109 - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KM 2109 - G	GREEN	565	5,5	10	40	2,2	2,5		25
KM 2109 - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KM 2109 - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KM 2109 - M	MULTICOLOURED	Indicate colours from left to right (see drawing)						+ 100	
KM 2109 - I	IPER RED	660	50	10	40	1,85	2,5		30
KM 2109 - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mol	mA	DEGREE°	V	V	°C	mA



SERIES KML 2030/RA

Ø 1,8 mm LED

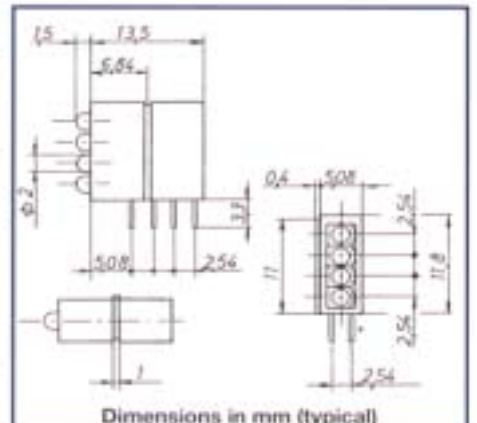
TYPE (3 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KML 2030/RA - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2030/RA - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2030/RA - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2030/RA - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2030/RA - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2030/RA - M	MULTICOLOURED	Indicate colours from top to bottom (see drawing)						+ 100	
KML 2030/RA - I	IPER RED	660	80	10	40	1,85	2,5		30
KML 2030/RA - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mol	mA	DEGREE°	V	V	°C	mA



SERIES KML 2040/RA

Ø 1,8 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KML 2040/RA - R	RED	700	3,5	10	40	2,0	2,5	- 55 to + 100	25
KML 2040/RA - Y	YELLOW	590	5,5	10	40	2,1	2,5		30
KML 2040/RA - G	GREEN	565	5,5	10	40	2,2	2,5		25
KML 2040/RA - E	ORANGE	625	12,5	10	40	2,0	2,5		30
KML 2040/RA - S	SUPER RED	625	12,5	10	40	2,0	2,5		30
KML 2040/RA - M	MULTICOLOURED	Indicate colours from top to bottom (see drawing)						+ 100	
KML 2040/RA - I	IPER RED	660	50	10	40	1,85	2,5		30
KML 2040/RA - W	RED	660	80	10	30	1,85	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mol	mA	DEGREE°	V	V	°C	mA

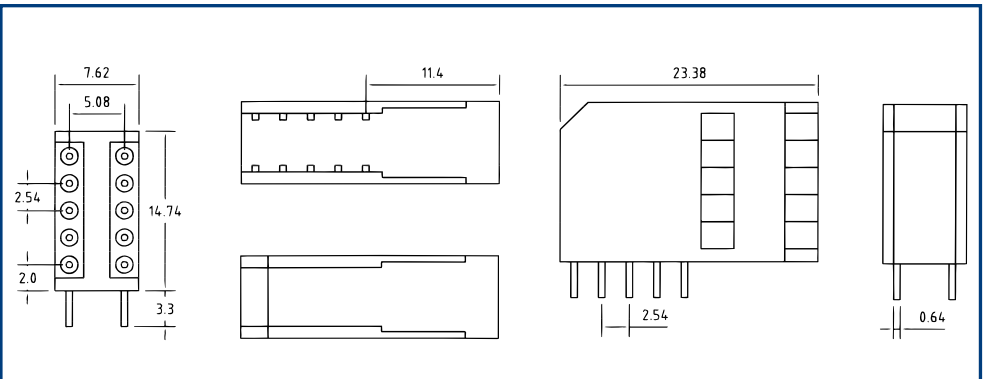


MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

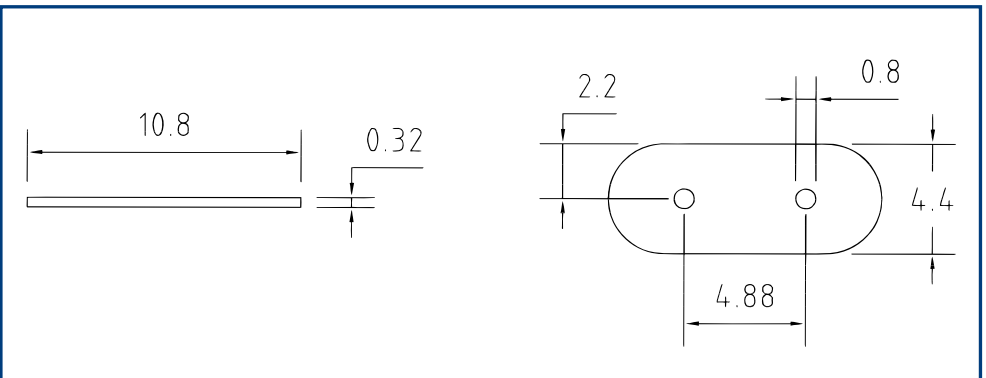
FEATURES

- ◆ 1,8 mm sized led's save space
- ◆ colours can be mixed in a single housing
- ◆ facilitates PCB mounting and wave soldering
- ◆ vibration and shock resistance
- ◆ special leds on request



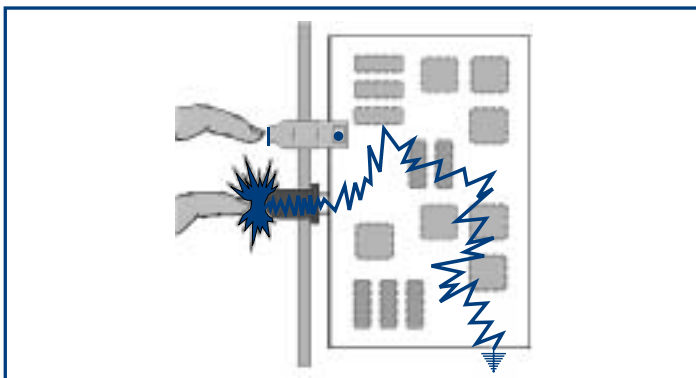
SOCKET FOR DISPLAY 7.68mm (0.3 IN)

TYPE KZD 10

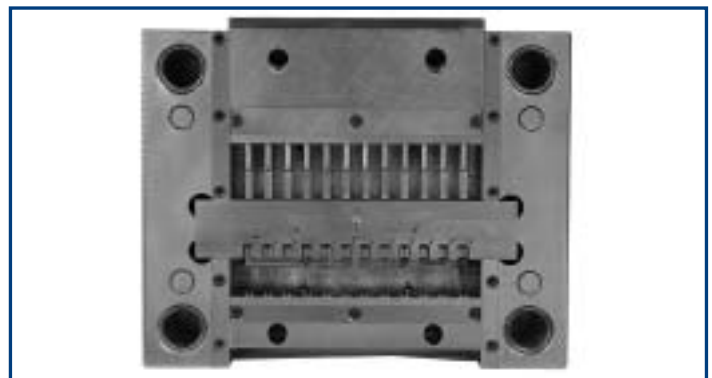


SPACER FOR CRYSTAL

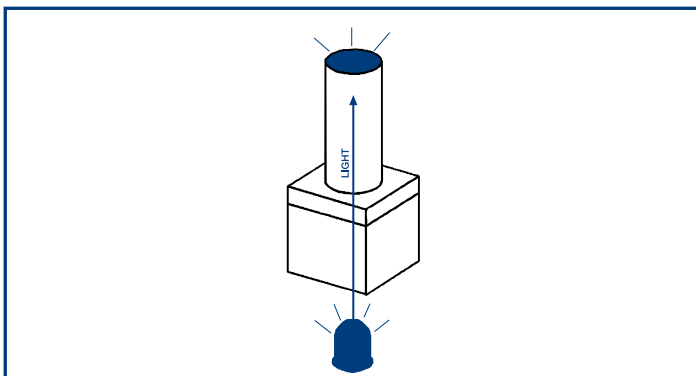
TYPE KC 02*



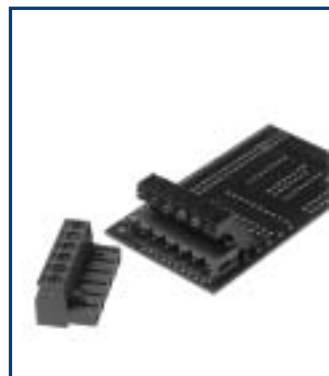
ESD PROTECTION



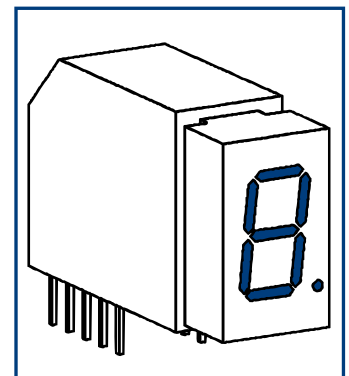
MOULDS FOR ELECTRONIC COMPONENTS



LIGHT TRANSPORTERS Ø 3 mm LED



TERMINAL BLOCKS



SOCKET FOR DISPLAY

MATERIAL SPECIFICATION*

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040

FEATURES*

- ◆ COMPATIBLE WITH ALMOST ALL CRYSTAL QUARTZ (HC49-HC18-HC50 etc)
- ◆ CUSTOM VERSION
- ◆ LOW COST
- ◆ HIGH RELIABILITY ◆ FACILITATES PCB MOUNTING
- ◆ REDUCTION OF ABOUT 80% OF ASSEMBLING TIME



KSL 520



KRC 520

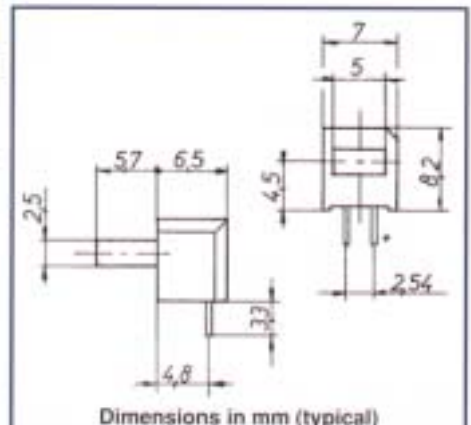


KRC 522

SERIES KSL 520

2.5 x 5 mm LED

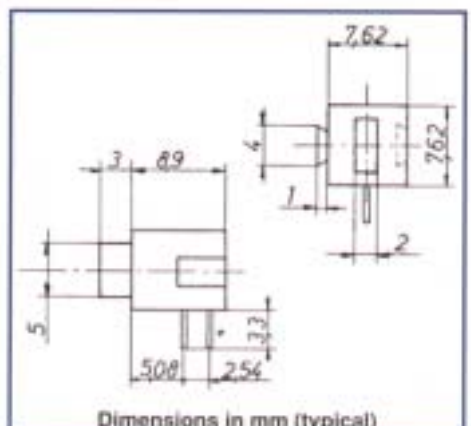
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSL 520 - R	RED	700	1,25	10	120	2,1	2,5	- 55 to + 100	25
KSL 520 - Y	YELLOW	590	8	10	120	2,1	2,5		30
KSL 520 - G	GREEN	565	8	10	120	2,2	2,5		25
KSL 520 - E	ORANGE	625	8	10	120	2,0	2,5		30
KSL 520 - S	SUPER RED	625	8	10	120	2,0	2,5		30
KSL 520 - I	IPER RED	660	80	10	120	1,85	2,5		25
KSL 520 - SG	SUPER GREEN	565	20	10	110	2,0	2,5		25
KSL 520 - B	RED-GREEN	660/565	70/20	10	100	2,0	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KRC 520

2 x 5 mm LED

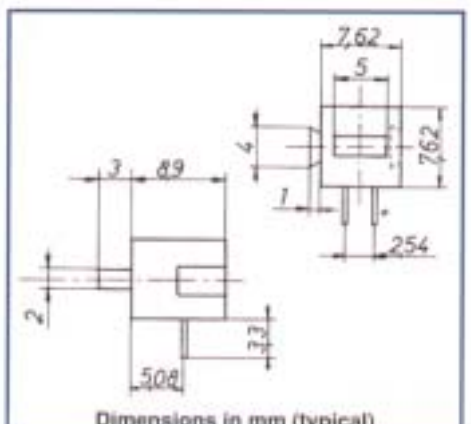
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KRC 520 - R	RED	700	1,25	10	120	2,1	2,5	- 55 to + 100	25
KRC 520 - Y	YELLOW	590	8	10	120	2,1	2,5		30
KRC 520 - G	GREEN	565	8	10	120	2,2	2,5		25
KRC 520 - E	ORANGE	625	8	10	120	2,0	2,5		30
KRC 520 - S	SUPER RED	625	8	10	120	2,0	2,5		30
KRC 520 - I	IPER RED	660	80	10	120	1,85	2,5		25
KRC 520 - B	RED-GREEN	660/565	70/20	10	100	2,0	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KRC 522

2 x 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KRC 522 - R	RED	700	1,25	10	120	2,1	2,5	- 55 to + 100	25
KRC 522 - Y	YELLOW	590	8	10	120	2,1	2,5		30
KRC 522 - G	GREEN	565	8	10	120	2,2	2,5		25
KRC 522 - E	ORANGE	625	8	10	120	2,0	2,5		30
KRC 522 - S	SUPER RED	625	8	10	120	2,0	2,5		30
KRC 522 - I	IPER RED	660	80	10	120	1,85	2,5		25
KRC 522 - B	RED-GREEN	660/565	70/20	10	100	2,0	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ⚡ HOUSING: BLACK NORYL, UL94 V-0
- ⚡ SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- ⚡ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ⚡ CLIMATE: DIN 40040
- ⚡ TERMINATIONS: □ 0,5 mm leads
- ⚡ Mean Time Between Failure: standard 100.000 hours

OPTIONS AVAILABLE

- ⚡ 5 V & 12 V INTEGRATED RESISTOR
- ⚡ BICOLOUR/TRICOLOUR & BIPOLAR
- ⚡ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ⚡ SPECIAL LEDs ON REQUEST



KRC 55



K 28300

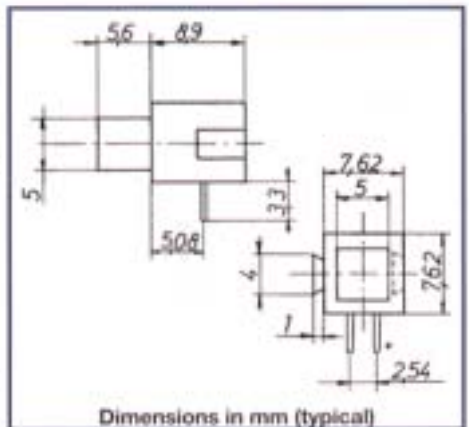


KRC 56

SERIES KRC 55

□ 5 x 5 mm LED

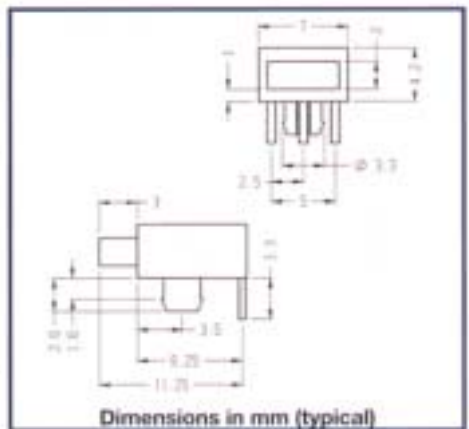
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KRC 55 - R	RED	700	1,25	10	120	2,1	2,5	-55	25
KRC 55 - Y	YELLOW	590	8	10	120	2,1	2,5	to	30
KRC 55 - G	GREEN	565	8	10	120	2,2	2,5	to	25
KRC 55 - E	ORANGE	625	8	10	120	2,0	2,5	to	30
KRC 55 - S	SUPER RED	625	8	10	120	2,0	2,5	+100	30
KRC 55 - I	IPER RED	660	80	10	120	1,85	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE*	V	V	°C	mA



SERIES K 28300

□ 2 x 5 mm LED

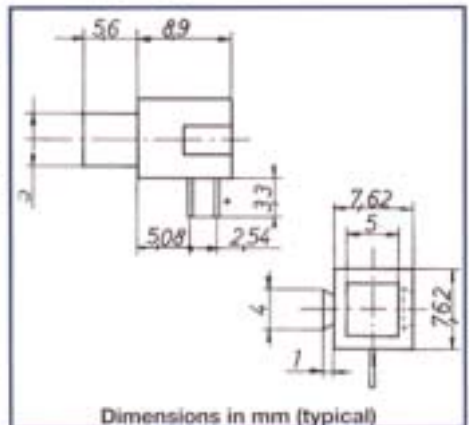
TYPE	EMITTED COLOUR (BICOLOUR)	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 28300 - EGW	RED/GREEN	625/565	40	20	100	2,2	2,5	-55	30
K 28300 - EGW/CA	RED/GREEN	625/565	40	20	100	2,2	2,5	to	30
K 28300 - EYW	RED/YELLOW	625/590	20	20	100	2,2	2,5	to	25
K 28300 - GYW	GREEN/YELLOW	625/590	20	20	100	2,2	2,5	+100	30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE*	V	V	°C	mA



SERIES KRC 56

□ 5 x 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KRC 56 - R	RED	700	1,25	10	120	2,1	2,5	-55	25
KRC 56 - Y	YELLOW	590	8	10	120	2,1	2,5	to	30
KRC 56 - G	GREEN	565	8	10	120	2,2	2,5	to	25
KRC 56 - E	ORANGE	625	8	10	120	2,0	2,5	to	30
KRC 56 - S	SUPER RED	625	8	10	120	2,0	2,5	+100	30
KRC 56 - I	IPER RED	660	80	10	120	1,85	2,5		25
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE*	V	V	°C	mA



MATERIAL SPECIFICATION

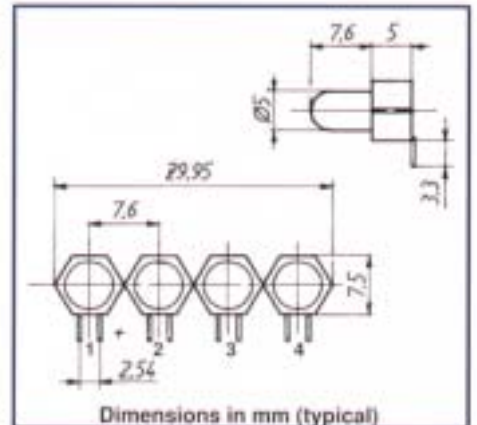
- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

OPTIONS AVAILABLE

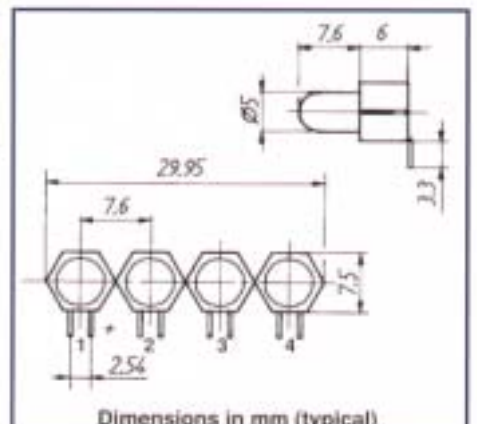
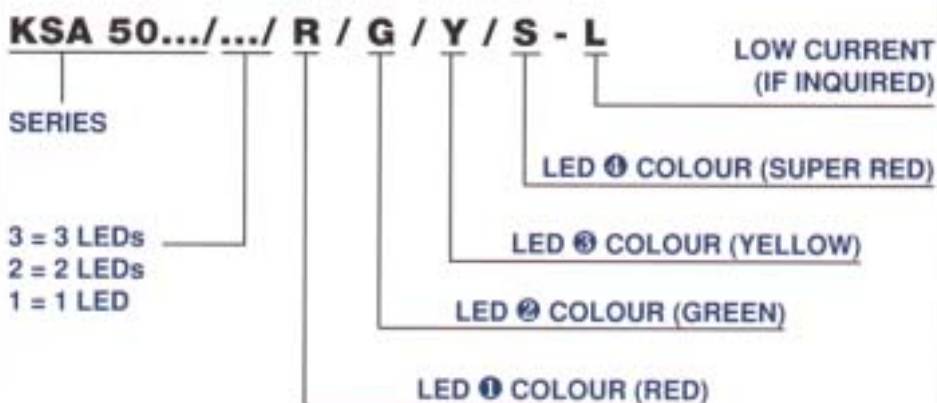
- ◆ 5 V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ SPECIAL LEDs ON REQUEST


SERIES KSA 5005
Ø 5 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSA 5005 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSA 5005 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSA 5005 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSA 5005 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSA 5005 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5005 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5005 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSA 5005 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSA 5005 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSA 5005 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA


SERIES KSA 5006
Ø 5 mm LED

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSA 5006 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSA 5006 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSA 5006 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSA 5006 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSA 5006 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5006 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5006 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSA 5006 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSA 5006 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSA 5006 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcld	mA	DEGREE°	V	V	°C	mA


**PART NUMBERS EXAMPLES MULTICOLOURED
AND NUMBER OF LED:**


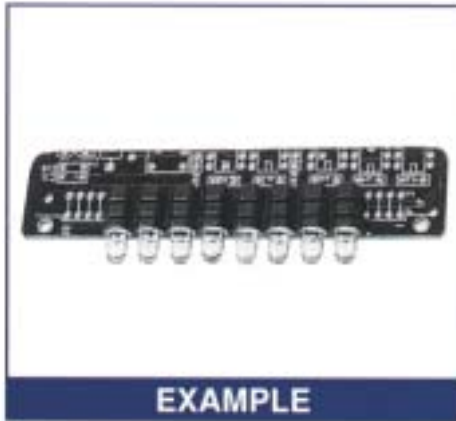
MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

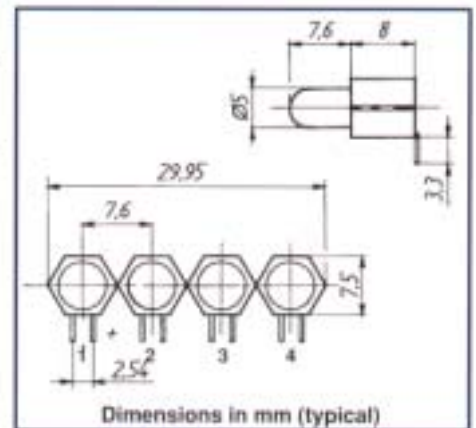
- ☞ HOUSING: BLACK NORYL, UL94 V-0
- ☞ SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- ☞ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ☞ CLIMATE: DIN 40040
- ☞ TERMINATIONS: □ 0,5 mm leads
- ☞ Mean Time Between Failure:
 - + standard 100.000 hours
 - + low current 250.000 hours

OPTIONS AVAILABLE

- ☞ 5 V & 12 V INTEGRATED RESISTOR
- ☞ BICOLOUR/TRICOLOUR & BIPOLAR
- ☞ BLUE OR WHITE LEDs
- ☞ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ☞ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ☞ FLAT TOP & BLINKING LEDs
- ☞ SPECIAL LEDs ON REQUEST
- ☞ STRAIGHT VERSION

**EXAMPLE****KSA 5008****KSA 5011****SERIES KSA 5008****Ø 5 mm LED**

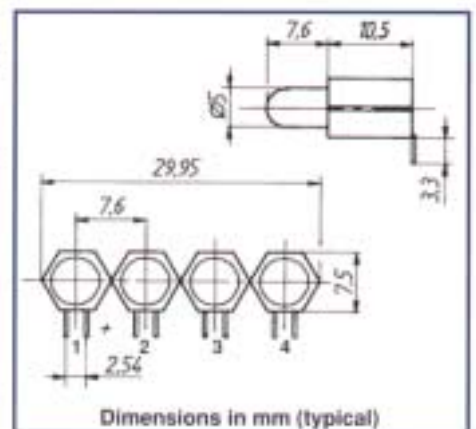
TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	F		TYP.	MAX.		
KSA 5008 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSA 5008 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSA 5008 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSA 5008 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSA 5008 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5008 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5008 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSA 5008 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSA 5008 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSA 5008 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



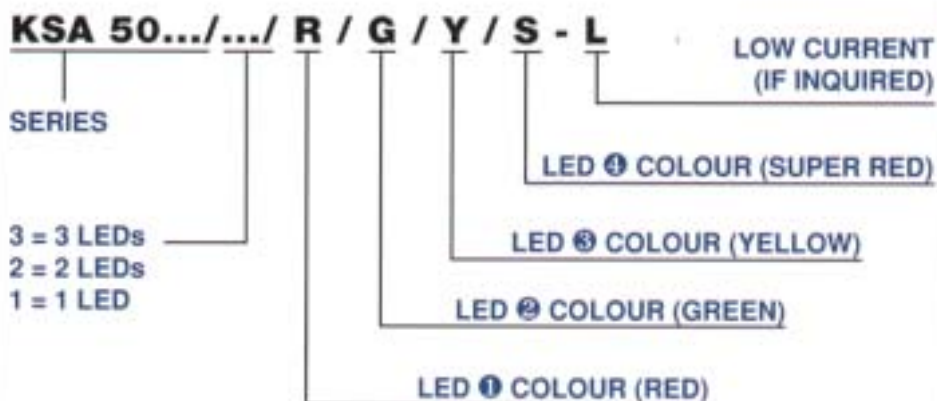
Dimensions in mm (typical)

SERIES KSA 5011**Ø 5 mm LED**

TYPE (4 LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSA 5011 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSA 5011 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSA 5011 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSA 5011 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSA 5011 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5011 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5011 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSA 5011 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSA 5011 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSA 5011 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE	V	V	°C	mA



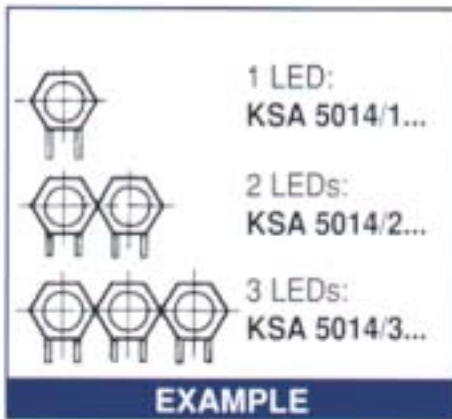
Dimensions in mm (typical)

**PART NUMBERS EXAMPLES MULTICOLOURED
AND NUMBER OF LED:**

MULTICOLOURED: indicate colours from left to right - see drawing
MATERIAL SPECIFICATION

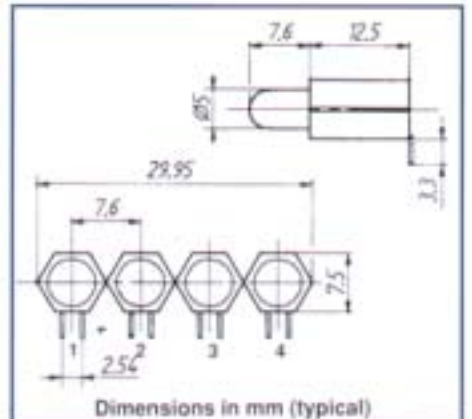
- ⚡ HOUSING: BLACK NORYL, UL94 V-0
- ⚡ SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- ⚡ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ⚡ CLIMATE: DIN 40040
- ⚡ TERMINATIONS: □ 0,5 mm leads
- ⚡ Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

OPTIONS AVAILABLE

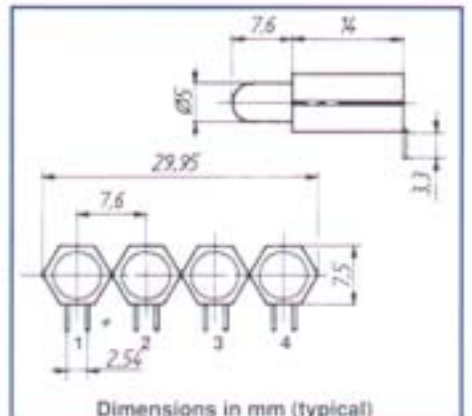
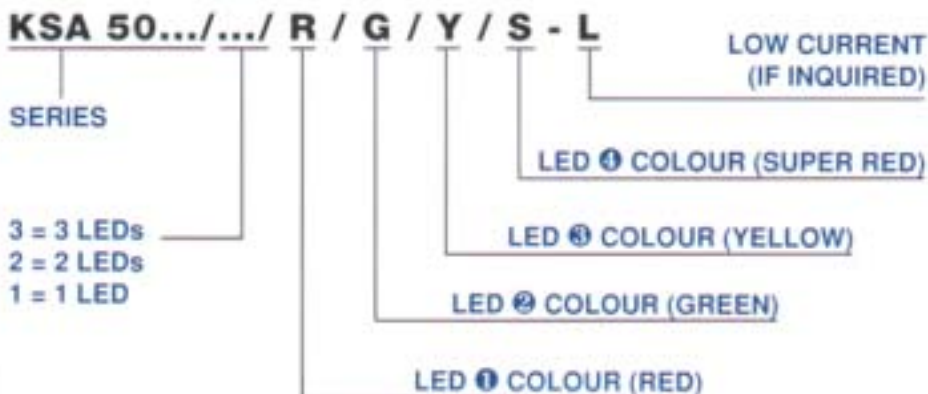
- ⚡ 5 V & 12 V INTEGRATED RESISTOR
- ⚡ BICOLOUR/TRICOLOUR & BIPOLAR
- ⚡ BLUE OR WHITE LEDs
- ⚡ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ⚡ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ⚡ FLAT TOP & BLINKING LEDs
- ⚡ SPECIAL LEDs ON REQUEST
- ⚡ STRAIGHT VERSION


SERIES KSA 5013
Ø 5 mm LED

TYPE (# LEDS)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSA 5013 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSA 5013 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSA 5013 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSA 5013 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSA 5013 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5013 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5013 - RL	RED	625	2	As per data sheet	120	1.8	2.5	- 55 to + 100	7.5
KSA 5013 - YL	YELLOW	590	2	As per data sheet	120	1.9	2.7		7.5
KSA 5013 - GL	GREEN	565	2	As per data sheet	120	1.9	2.5		7.5
KSA 5013 - IL	IPER RED	660	20	As per data sheet	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE	V	V	°C	mA


SERIES KSA 5014
Ø 5 mm LED

TYPE (# LED#)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSA 5014 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSA 5014 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSA 5014 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSA 5014 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSA 5014 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.5		25
KSA 5014 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5014 - RL	RED	625	2	As per data sheet	120	1.8	2.5	- 55 to + 100	7.5
KSA 5014 - YL	YELLOW	590	2	As per data sheet	120	1.9	2.7		7.5
KSA 5014 - GL	GREEN	565	2	As per data sheet	120	1.9	2.5		7.5
KSA 5014 - IL	IPER RED	660	20	As per data sheet	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE	V	V	°C	mA


**PART NUMBERS EXAMPLES MULTICOLOURED
AND NUMBER OF LED:**


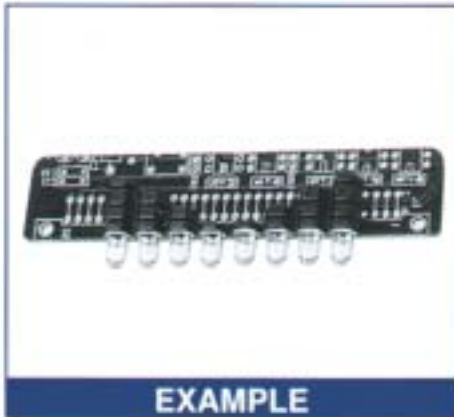
MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

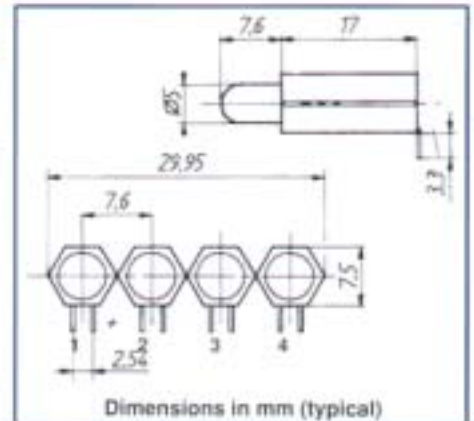
- ⚡ HOUSING: BLACK NORYL, UL94 V-0
- ⚡ SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- ⚡ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ⚡ CLIMATE: DIN 40040
- ⚡ TERMINATIONS: □ 0.5 mm leads
- ⚡ Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

OPTIONS AVAILABLE

- ⚡ 5 V & 12 V INTEGRATED RESISTOR
- ⚡ BICOLOUR/TRICOLOUR & BIPOLAR
- ⚡ BLUE OR WHITE LEDs
- ⚡ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ⚡ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ⚡ FLAT TOP & BLINKING LEDs
- ⚡ SPECIAL LEDs ON REQUEST
- ⚡ STRAIGHT VERSION

**EXAMPLE****KSA 5017****KSA 5020****SERIES KSA 5017****Ø 5 mm LED**

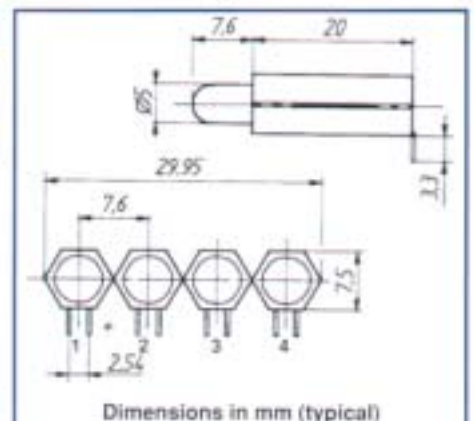
TYPE (# LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSA 5017 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSA 5017 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSA 5017 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSA 5017 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSA 5017 - B	RED GREEN	525/585	12.5	20	100	2.0	2.5		25
KSA 5017 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5017 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSA 5017 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSA 5017 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSA 5017 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	msd	mA	DEGREE	V	V	°C	mA



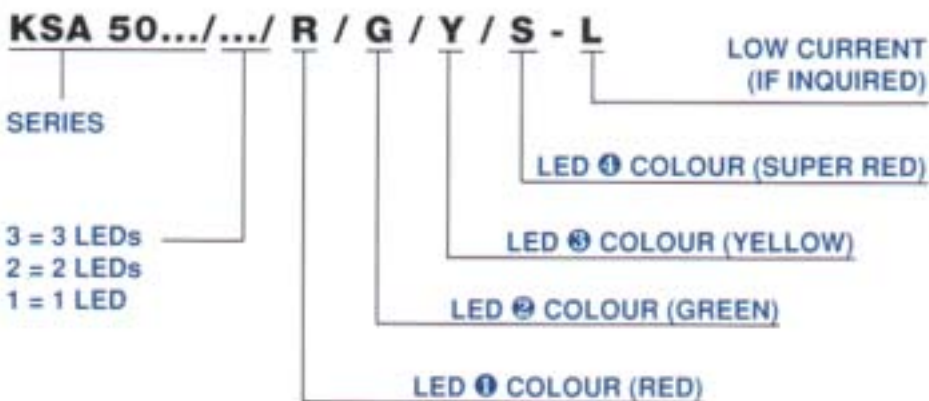
Dimensions in mm (typical)

SERIES KSA 5020**Ø 5 mm LED**

TYPE (# LEDs)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSA 5020 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSA 5020 - Y	YELLOW	590	12.5	10	120	2.1	2.5		30
KSA 5020 - G	GREEN	565	12.5	10	120	2.2	2.5		25
KSA 5020 - S	SUPER RED	625	20	10	120	2.0	2.5		30
KSA 5020 - B	RED-GREEN	525/585	12.5	20	100	2.0	2.5		25
KSA 5020 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSA 5020 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSA 5020 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSA 5020 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSA 5020 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	msd	mA	DEGREE	V	V	°C	mA



Dimensions in mm (typical)

**PART NUMBERS EXAMPLES MULTICOLOURED
AND NUMBER OF LED:**


MULTICOLOURED: indicate colours from left to right - see drawing

MATERIAL SPECIFICATION

- ⚡ HOUSING: BLACK NORYL, UL94 V-0
- ⚡ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ⚡ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ⚡ CLIMATE: DIN 40040
- ⚡ TERMINATIONS: □ 0.5 mm leads
- ⚡ Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

OPTIONS AVAILABLE

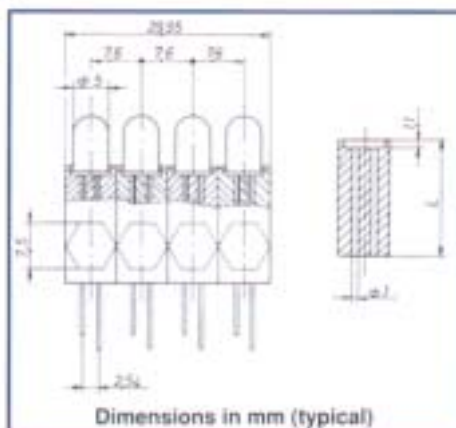
- ⚡ 5 V & 12 V INTEGRATED RESISTOR
- ⚡ BICOLOUR/TRICOLOUR & BIPOLAR
- ⚡ BLUE OR WHITE LEDs
- ⚡ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ⚡ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ⚡ FLAT TOP & BLINKING LEDs
- ⚡ SPECIAL LEDs ON REQUEST
- ⚡ STRAIGHT VERSION



SPACER 4 LEDs

Ø 5 mm LED

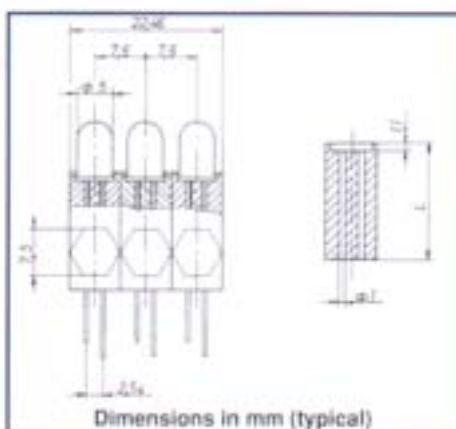
TYPE	LENGTH	<i>AVAILABLE OTHERS LENGTHS</i>
KVL 5002	L = 2 mm	
KVL 5005	L = 5 mm	
KVL 5006	L = 6 mm	
KVL 5008	L = 8 mm	
KVL 5011	L = 11 mm	
KVL 5013	L = 13 mm	
KVL 5014	L = 14 mm	
KVL 5017	L = 17 mm	
KVL 5020	L = 20 mm	



SPACER 3 LEDs

Ø 5 mm LED

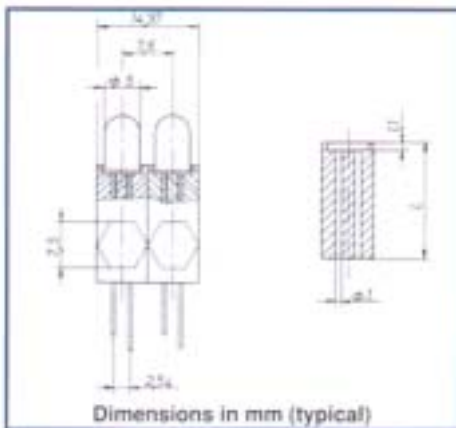
TYPE	LENGTH	<i>AVAILABLE OTHERS LENGTHS</i>
KVL 5002/3	L = 2 mm	
KVL 5005/3	L = 5 mm	
KVL 5006/3	L = 6 mm	
KVL 5008/3	L = 8 mm	
KVL 5011/3	L = 11 mm	
KVL 5013/3	L = 13 mm	
KVL 5014/3	L = 14 mm	
KVL 5017/3	L = 17 mm	
KVL 5020/3	L = 20 mm	



SPACER 2 LEDs

Ø 5 mm LED

TYPE	LENGTH	<i>AVAILABLE OTHERS LENGTHS</i>
KVL 5002/2	L = 2 mm	
KVL 5005/2	L = 5 mm	
KVL 5006/2	L = 6 mm	
KVL 5008/2	L = 8 mm	
KVL 5011/2	L = 11 mm	
KVL 5013/2	L = 13 mm	
KVL 5014/2	L = 14 mm	
KVL 5017/2	L = 17 mm	
KVL 5020/2	L = 20 mm	

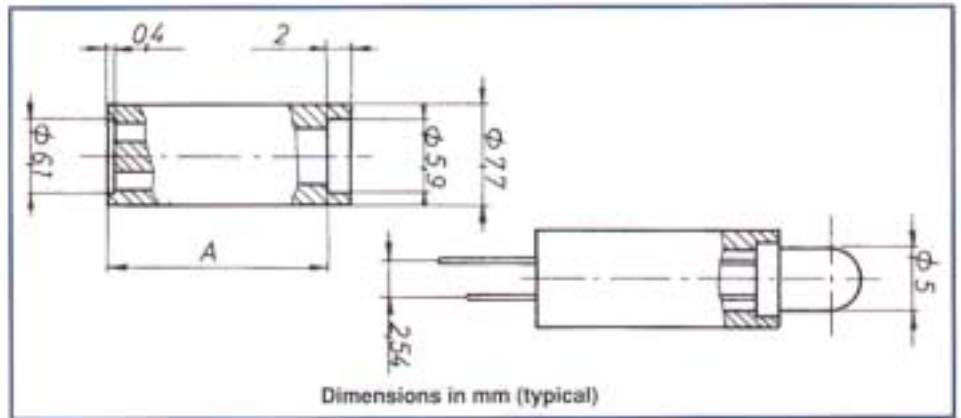


MATERIAL SPECIFICATION

- ✓ HOUSING: BLACK NORYL, UL94 V-0
- ✓ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ✓ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ✓ DEFLECTION TEMPERATURE: 152 °C
- ✓ HARDNESS (ROCKWELL): R 112
- ✓ AMBIENT TEMPERATURE: -55° to +105 °C
- ✓ STORAGE TEMPERATURE: -55° to +105 °C

OPTIONS AVAILABLE

- ✓ 5 V & 12 V INTEGRATED RESISTOR
- ✓ BICOLOUR/TRICOLOUR & BIPOLAR
- ✓ BLUE OR WHITE LEDs
- ✓ ULTRABRIGHT-INFRARED & PHOTOTRANSISTORS
- ✓ LED CASE: WATER CLEAR - TRANSPARENT-WHITE
- ✓ FLAT TOP & BLINKING LEDs
- ✓ SPECIAL LEDs ON REQUEST



SPACER VARIABLE LENGTH

Ø 5 mm LED

WITHOUT LED	LENGTH - A	WITH LED		
		RED TYPE	GREEN TYPE	YELLOW TYPE
KVD-05-045	A = 4.5 mm	KVD-05-045/R	KVD-05-045/G	KVD-05-045/Y
KVD-05-060	A = 6.0 mm	KVD-05-060/R	KVD-05-060/G	KVD-05-060/Y
KVD-05-070	A = 7.0 mm	KVD-05-070/R	KVD-05-070/G	KVD-05-070/Y
KVD-05-080	A = 8.0 mm	KVD-05-080/R	KVD-05-080/G	KVD-05-080/Y
KVD-05-090	A = 9.0 mm	KVD-05-090/R	KVD-05-090/G	KVD-05-090/Y
KVD-05-100	A = 10.0 mm	KVD-05-100/R	KVD-05-100/G	KVD-05-100/Y
KVD-05-115	A = 11.5 mm	KVD-05-115/R	KVD-05-115/G	KVD-05-115/Y
KVD-05-127	A = 12.7 mm	KVD-05-127/R	KVD-05-127/G	KVD-05-127/Y
KVD-05-140	A = 14.0 mm	KVD-05-140/R	KVD-05-140/G	KVD-05-140/Y
KVD-05-150	A = 15.0 mm	KVD-05-150/R	KVD-05-150/G	KVD-05-150/Y
KVD-05-160	A = 16.0 mm	KVD-05-160/R	KVD-05-160/G	KVD-05-160/Y
KVD-05-170	A = 17.0 mm	KVD-05-170/R	KVD-05-170/G	KVD-05-170/Y
KVD-05-180	A = 18.0 mm	KVD-05-180/R	KVD-05-180/G	KVD-05-180/Y
KVD-05-190	A = 19.0 mm	KVD-05-190/R	KVD-05-190/G	KVD-05-190/Y
KVD-05-200	A = 20.0 mm	KVD-05-200/R	KVD-05-200/G	KVD-05-200/Y
KVD-05-230	A = 23.0 mm	KVD-05-230/R	KVD-05-230/G	KVD-05-230/Y

OTHER SIZES OR INTERMEDIATE SIZES UPON REQUEST

MATERIAL SPECIFICATION

- ☞ HOUSING: BLACK NORYL, UL94 V-0
- ☞ SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- ☞ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ☞ DEFLECTION TEMPERATURE: 152°C
- ☞ HARDNESS (ROCKWELL): R 112
- ☞ AMBIENT TEMPERATURE: -55° to +105°C
- ☞ STORAGE TEMPERATURE: -55° to +105°C

OPTIONS AVAILABLE

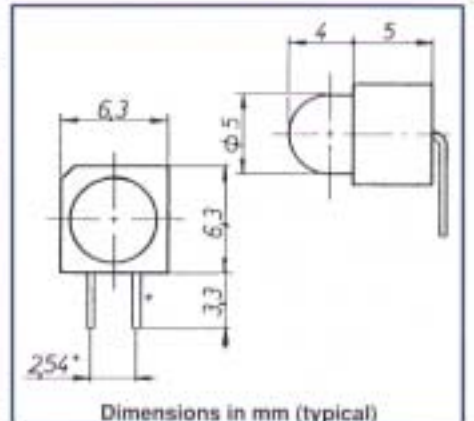
- ☞ 5 V & 12 V INTEGRATED RESISTOR
- ☞ BICOLOUR/TRICOLOUR & BIPOLAR
- ☞ BLUE OR WHITE LEDs
- ☞ ULTRABRIGHT-INFRARED & PHOTOTRANSISTORS
- ☞ LED CASE: WATER CLEAR - TRANSPARENT-WHITE
- ☞ FLAT TOP & BLINKING LEDs
- ☞ SPECIAL LEDs ON REQUEST



SERIES KSL 50

Ø 5 mm LED

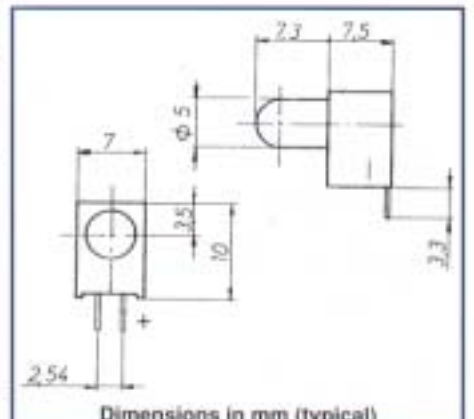
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSL 50 - R	RED	700	3.5	10	120	2.1	2.5	- 55 to + 100	25
KSL 50 - Y	YELLOW	590	20	10	120	2.2	2.5		25
KSL 50 - G	GREEN	565	8	10	120	2.2	2.5		30
KSL 50 - S	SUPER RED	625	20	10	120	2.2	2.5		30
BLINKING									
KSL 50 - RT	RED	700	2.5		120	9-12	13	- 55 to + 100	38-50
KSL 50 - YT	YELLOW	590	12.5		120	9-12	13		38-50
KSL 50 - GT	GREEN	565	8		120	9-12	13		38-50
KSL 50 - IT	IPER RED	660	70		120	9-12	13		38-50
KSL 50 - SL	SUPER RED	625	12.5		120	9-12	13		38-50
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KSL 55

Ø 5 mm LED

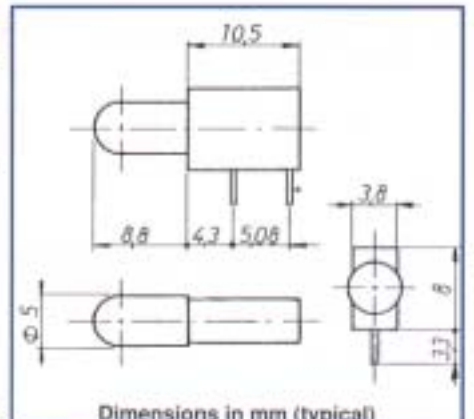
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (If=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSL 55 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSL 55 - Y	YELLOW	590	20	10	120	2.1	2.6		30
KSL 55 - G	GREEN	565	20	10	120	2.2	2.5		25
KSL 55 - S	SUPER RED	625	32	10	120	2.0	2.5		30
KSL 55 - B	RED/GREEN	625/660	12.5	20	100	2.0	2.6		25
KSL 55 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSL 55 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSL 55 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSL 55 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSL 55 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



SERIES KDE 54

Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDE 54 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDE 54 - Y	YELLOW	590	20	10	120	2.1	2.6		30
KDE 54 - G	GREEN	565	20	10	120	2.2	2.5		25
KDE 54 - S	SUPER RED	625	32	10	120	2.0	2.5	- 55 to + 100	30
KDE 54 - B	RED/GREEN	625/660	12.5	20	100	2.0	2.6		25
KDE 54 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDE 54 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDE 54 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDE 54 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDE 54 - IL	IPER RED	660	20	2	120	1.85	2.5	- 55 to + 100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

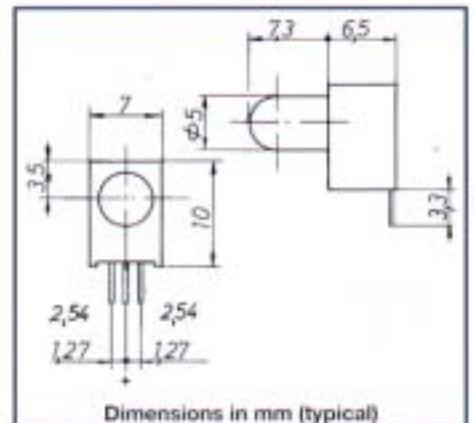
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



SERIES KSL 552

Ø 5 mm LED

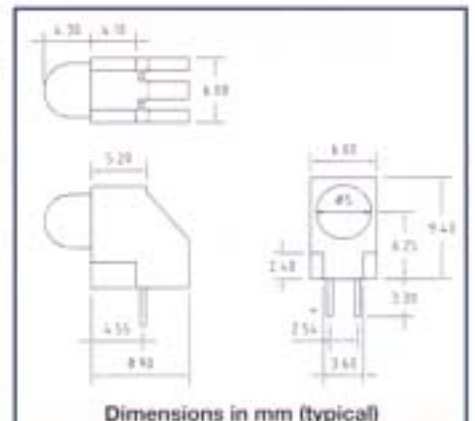
TYPE	EMITTED COLOUR (BICOLOUR)	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KSL 552 - EGW	RED/GREEN	625/565	40	20	100	2,2	2,5	- 55	30
KSL 552 - EGW/CA	RED/GREEN	625/565	40	20	100	2,2	2,5	to	30
KSL 552 - EYW	RED/YELLOW	625/590	20	20	100	2,2	2,5	to	25
KSL 552 - GYW	GREEN/YELLOW	625/590	20	20	100	2,2	2,5	+ 100	30
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES K 506

Ø 5 mm LED

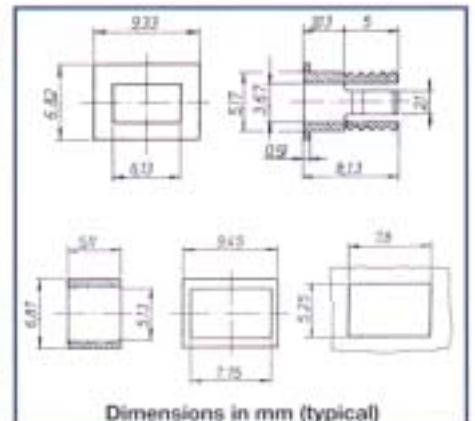
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 506 - R	RED	700	5	10	120	2,0	2,5	- 55	25
K 506 - Y	YELLOW	590	12,5	10	120	2,1	2,5	to	30
K 506 - G	GREEN	565	12,5	10	120	2,2	2,5	to	25
K 506 - S	SUPER RED	625	20	10	120	2,0	2,5	to	30
K 506 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5	+ 100	25
K 506 - I	IPER RED	660	100	20	120	1,85	2,5	+ 100	30
LOW CURRENT									
K 506 - RL	RED	625	2	2	120	1,8	2,5	- 55	7,5
K 506 - YL	YELLOW	590	2	2	120	1,9	2,7	to	7,5
K 506 - GL	GREEN	565	2	2	120	1,9	2,5	to	7,5
K 506 - IL	IPER RED	660	20	2	120	1,85	2,5	+ 100	7,5
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



SERIES KLB 36

3.6 x 6.1 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
KLB 36 - Y	YELLOW	590	5	10	120	2,1	2,5	- 55	30
KLB 36 - G	GREEN	565	5	10	120	2,2	2,5	to	25
KLB 36 - S	SUPER RED	625	5	10	120	2,0	2,5	to	30
KLB 36 - I	IPER RED	660	80	10	120	1,85	2,5	to	25
KLB 36 - B	RED-GREEN	625/565	16	10	100	2,0	2,5	+ 100	25
QUALITY TESTED 100%	DIFFUSED	nm	med	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure 100.000 hours

OPTIONS AVAILABLE

- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



KSL 580



KSL 58

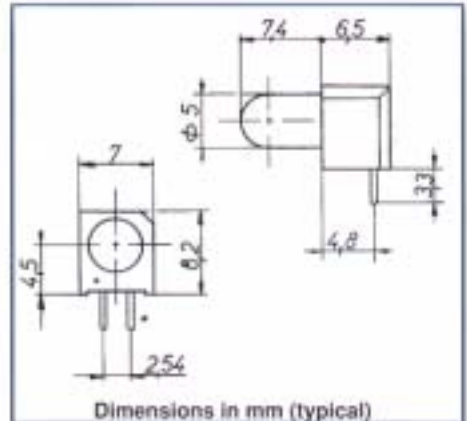


KSL 514

SERIES KSL 580

Ø 5 mm LED

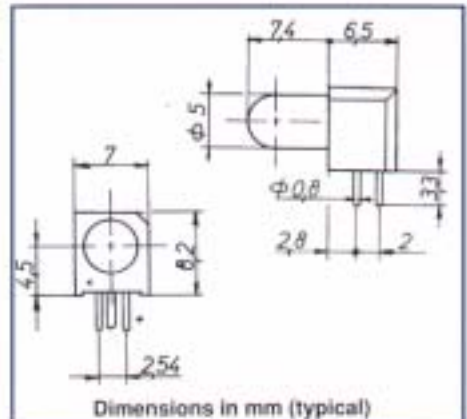
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSL 580 - R	RED	700	5	10	120	2.0	2.5	-55 to +100	25
KSL 580 - Y	YELLOW	590	20	10	120	2.1	2.6		30
KSL 580 - G	GREEN	565	20	10	120	2.2	2.5		25
KSL 580 - S	SUPER RED	625	32	10	120	2.0	2.5		30
KSL 580 - B	RED/GREEN	625/565	12.5	20	100	2.2	2.8		25
KSL 580 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSL 580 - RL	RED	625	2	2	120	1.8	2.5	-55 to +100	7.5
KSL 580 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSL 580 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSL 580 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcld	mA	DEGREE	V	V	°C	mA



SERIES KSL 58

Ø 5 mm LED

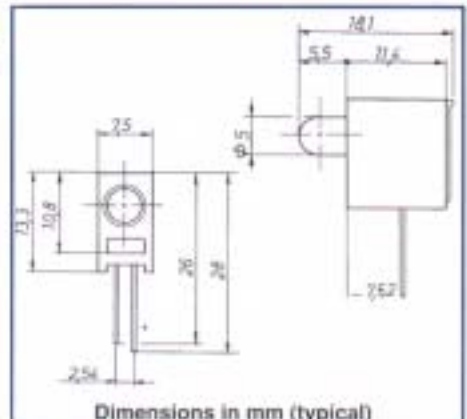
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSL 58 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSL 58 - Y	YELLOW	590	20	10	120	2.1	2.6		30
KSL 58 - G	GREEN	565	20	10	120	2.2	2.5		25
KSL 58 - S	SUPER RED	625	32	10	120	2.0	2.5		30
KSL 58 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.8		25
KSL 58 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSL 58 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSL 58 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSL 58 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSL 58 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcld	mA	DEGREE°	V	V	°C	mA



SERIES KSL 514

Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSL 514 - R	RED	700	5	10	120	2.0	2.5	-55 to +100	25
KSL 514 - Y	YELLOW	590	20	10	120	2.1	2.6		30
KSL 514 - G	GREEN	565	20	10	120	2.2	2.5		25
KSL 514 - S	SUPER RED	625	32	10	120	2.0	2.5		30
KSL 514 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.8		25
KSL 514 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSL 514 - RL	RED	625	2	2	120	1.8	2.5	-55 to +100	7.5
KSL 514 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSL 514 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSL 514 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcld	mA	DEGREE	V	V	°C	mA



MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0.5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



KSL 51



KDL 50

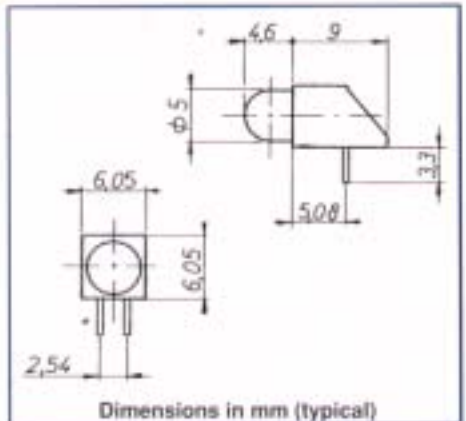


KDL 51

SERIES KSL 51

Ø 5 mm LED

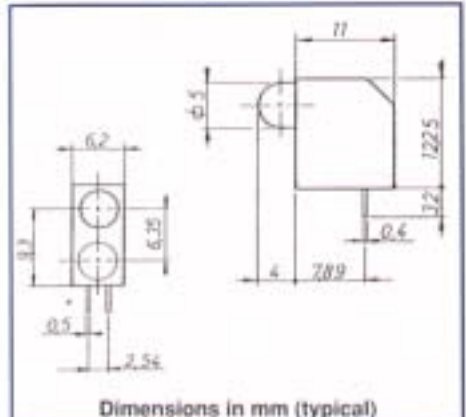
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KSL 51 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KSL 51 - Y	YELLOW	590	20	10	120	2.1	2.6		30
KSL 51 - G	GREEN	565	20	10	120	2.2	2.5		25
KSL 51 - S	SUPER RED	625	32	10	120	2.0	2.5		30
KSL 51 - B	RED/GREEN	625/565	12.5	20	100	2.2	2.8		25
KSL 51 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KSL 51 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KSL 51 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KSL 51 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KSL 51 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE	V	V	°C	mA



SERIES KDL 50

Ø 5 mm LED

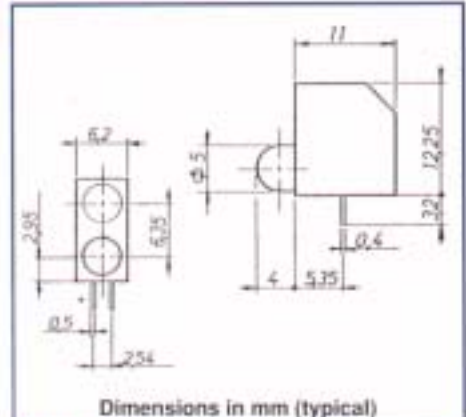
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDL 50 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDL 50 - Y	YELLOW	590	20	10	120	2.1	2.6		30
KDL 50 - G	GREEN	565	20	10	120	2.2	2.5		25
KDL 50 - S	SUPER RED	625	32	10	120	2.0	2.5		30
KDL 50 - B	RED/GREEN	625/660	12.5	20	100	2.0	2.8		25
KDL 50 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDL 50 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDL 50 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDL 50 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDL 50 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mcD	mA	DEGREE	V	V	°C	mA



SERIES KDL 51

Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KDL 51 - R	RED	700	5	10	120	2.0	2.5	- 55 to + 100	25
KDL 51 - Y	YELLOW	590	20	10	120	2.1	2.6		30
KDL 51 - G	GREEN	565	20	10	120	2.2	2.5		25
KDL 51 - S	SUPER RED	625	32	10	120	2.0	2.5		30
KDL 51 - B	RED/GREEN	625/665	12.5	20	100	2.0	2.8		25
KDL 51 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KDL 51 - RL	RED	625	2	2	120	1.8	2.5	- 55 to + 100	7.5
KDL 51 - YL	YELLOW	590	2	2	120	1.9	2.7		7.5
KDL 51 - GL	GREEN	565	2	2	120	1.9	2.5		7.5
KDL 51 - IL	IPER RED	660	20	2	120	1.85	2.5		7.5
QUALITY TESTED 100%	DIFFUSED	nm	mod	mA	DEGREE°	V	V	°C	mA



MATERIAL SPECIFICATION

- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0,5 mm leads
- Mean Time Between Failure: + standard 100.000 hours + low current 250.000 hours

OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



KRC 51



KCL 550

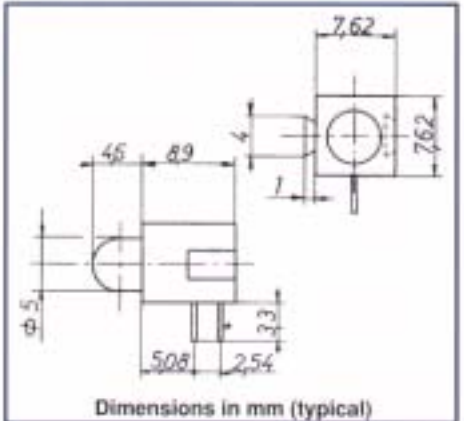


KRC 50

SERIES KRC 51

Ø 5 mm LED

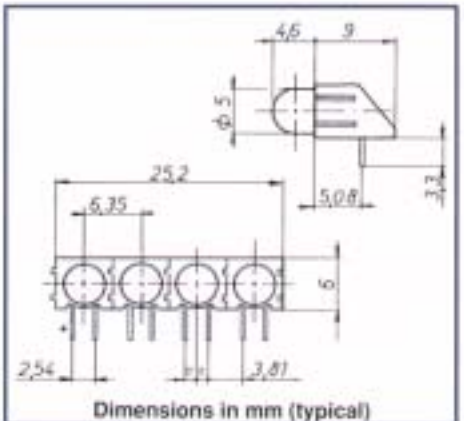
TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KRC 51 - R	RED	700	5	10	120	2.0	2.5	-55	25
KRC 51 - Y	YELLOW	590	20	10	120	2.1	2.6	to	30
KRC 51 - G	GREEN	565	20	10	120	2.2	2.5	to	25
KRC 51 - S	SUPER RED	625	32	10	120	2.0	2.5	+100	30
KRC 51 - B	RED/GREEN	625/565	12.5	20	100	2.2	2.8		25
KRC 51 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KRC 51 - RL	RED	625	2	2	120	1.8	2.5	-55	7.5
KRC 51 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KRC 51 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KRC 51 - IL	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mccl	mA	DEGREE°	V	V	°C	mA



SERIES KCL 550

Ø 5 mm LED

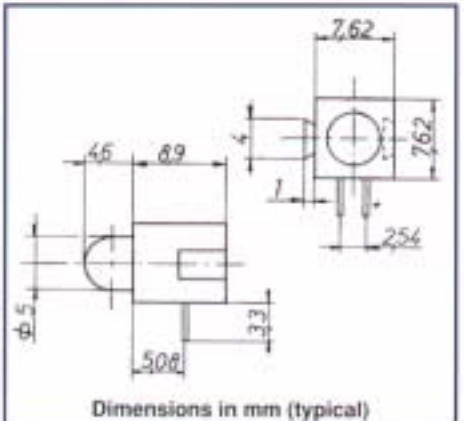
TYPE (# LED#)	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KCL 550 - R	RED	700	5	10	120	2.0	2.5	-55	25
KCL 550 - Y	YELLOW	590	20	10	120	2.1	2.6	to	30
KCL 550 - G	GREEN	565	20	10	120	2.2	2.5	to	25
KCL 550 - S	SUPER RED	625	32	10	120	2.0	2.5	+100	30
KCL 550 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.8		25
KCL 550 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KCL 550 - RL	RED	625	2	2	120	1.8	2.5	-55	7.5
KCL 550 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KCL 550 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KCL 550 - IL	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mccl	mA	DEGREE°	V	V	°C	mA



SERIES KRC 50

Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX.		
KRC 50 - R	RED	700	5	10	120	2.0	2.5	-55	25
KRC 50 - Y	YELLOW	590	20	10	120	2.1	2.6	to	30
KRC 50 - G	GREEN	565	20	10	120	2.2	2.5	to	25
KRC 50 - S	SUPER RED	625	32	10	120	2.0	2.5	+100	30
KRC 50 - B	RED/GREEN	625/565	12.5	20	100	2.0	2.8		25
KRC 50 - I	IPER RED	660	100	20	120	1.85	2.5		30
LOW CURRENT									
KRC 50 - RL	RED	625	2	2	120	1.8	2.5	-55	7.5
KRC 50 - YL	YELLOW	590	2	2	120	1.9	2.7	to	7.5
KRC 50 - GL	GREEN	565	2	2	120	1.9	2.5	to	7.5
KRC 50 - IL	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED	nm	mccl	mA	DEGREE°	V	V	°C	mA

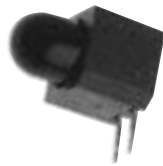


MATERIAL SPECIFICATION

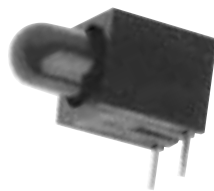
- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0.5 mm leads
- Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

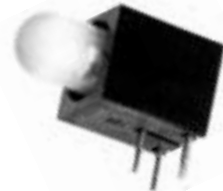
- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST



K 550



K 551

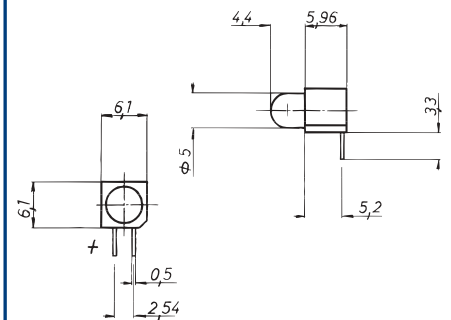


K 556

SERIES K 550

Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 550 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 550 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 550 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 550 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 550 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 550 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 550 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 550 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 550 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 550 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

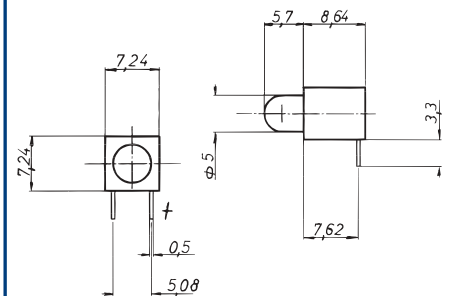


Dimensions in mm (typical)

SERIES K 551

Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 551 - R	RED	700	5	10	120	2,0	2,5	- 55 to + 100	25
K 551 - Y	YELLOW	590	12,5	10	120	2,1	2,5		30
K 551 - G	GREEN	565	12,5	10	120	2,2	2,5		25
K 551 - S	SUPER RED	625	20	10	120	2,0	2,5		30
K 551 - B	RED/GREEN	625/565	12,5	20	100	2,0	2,5		25
K 551 - I	IPER RED	660	100	20	120	1,85	2,5		30
LOW CURRENT									
K 551 - RL	RED	625	2	2	120	1,8	2,5	- 55 to + 100	7,5
K 551 - YL	YELLOW	590	2	2	120	1,9	2,7		7,5
K 551 - GL	GREEN	565	2	2	120	1,9	2,5		7,5
K 551 - IL	IPER RED	660	20	2	120	1,85	2,5		7,5
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA

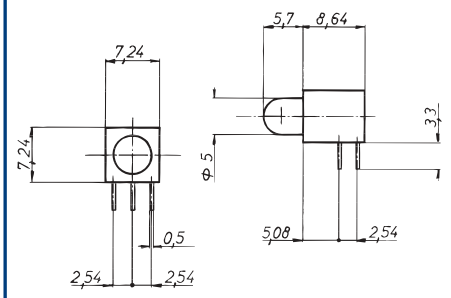


Dimensions in mm (typical)

SERIES K 556

Ø 5 mm LED

TYPE	EMITTED COLOUR	LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF = 20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
		PEAK	TYP.	IF		TYP.	MAX		
K 556 - EGW	RED/GREEN	625/565	40	20	100	2,2	2,5	- 55 to + 100	30
K 556 - EGW/CA	RED/GREEN	625/565	40	20	100	2,2	2,5		30
K 556 - EYW	RED/YELLOW	625/590	20	20	100	2,2	2,5	+ 100	25
K 556 - GYW	GREEN/YELLOW	625/590	20	20	100	2,2	2,5		30
QUALITY TESTED 100%	DIFFUSED	nm	mcd	mA	DEGREE°	V	V	°C	mA



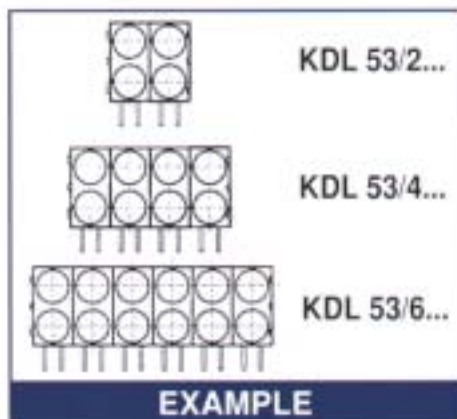
Dimensions in mm (typical)

MATERIAL SPECIFICATION

- ◆ HOUSING: BLACK, UL94 V-0
- ◆ SOLDERING TEMPERATURE: 260 °C ≤ 6 sec.
- ◆ FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- ◆ CLIMATE: DIN 40040
- ◆ TERMINATIONS: □ 0,5 mm leads
- ◆ Mean Time Between Failure: • standard 100.000 hours • low current 250.000 hours

OPTIONS AVAILABLE

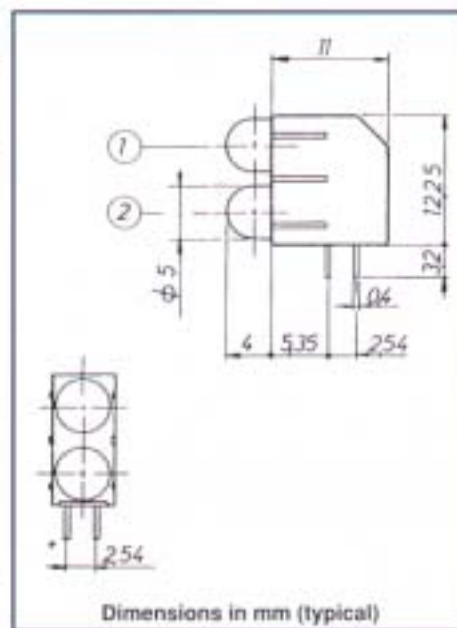
- ◆ 5V & 12 V INTEGRATED RESISTOR
- ◆ BICOLOUR/TRICOLOUR & BIPOLAR
- ◆ BLUE OR WHITE LEDs
- ◆ ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- ◆ LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- ◆ FLAT TOP & BLINKING LEDs ◆ SPECIAL LEDs ON REQUEST



SERIES KDL 53

Ø 5 mm LED

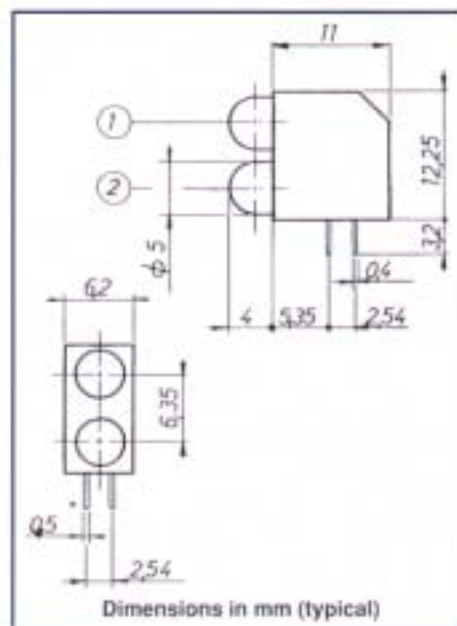
TYPE	EMITTED COLOUR		LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF		TYP.	MAX		
KDL 53 - RR	RED	RED	700	5	10	120	2.0	2.5		25
KDL 53 - YY	YELLOW	YELLOW	590	12.5	10	120	2.1	2.5	-55	30
KDL 53 - GG	GREEN	GREEN	565	12.5	10	120	2.2	2.5	10	25
KDL 53 - SS	SUPER RED	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KDL 53 - II	IPER RED	IPER RED	660	100	20	120	1.85	2.5		30
MULTICOLOURED										
KDL 53 - GR	GREEN	RED								
KDL 53 - YR	YELLOW	RED								
KDL 53 - YG	YELLOW	GREEN								
KDL 53 - SG	SUPER RED	GREEN								
KDL 53 - SY	SUPER RED	YELLOW								
KDL 53 - RG	RED	GREEN								
KDL 53 - RY	RED	YELLOW								
KDL 53 - GY	GREEN	YELLOW								
KDL 53 - GS	GREEN	SUPER RED								
KDL 53 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDL 53 - RRL	RED	RED	625	2	2	120	1.8	2.5		7.5
KDL 53 - YYL	YELLOW	YELLOW	590	2	2	120	1.9	2.5	-55	7.5
KDL 53 - GGL	GREEN	GREEN	565	2	2	120	1.9	2.5	10	7.5
KDL 53 - IIL	IPER RED	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED		nm	mod	mA	DEGREE	V	V	°C	mA



SERIES KDL 52

Ø 5 mm LED

TYPE	EMITTED COLOUR		LUMINOUS INTENSITY			FULL VIEWING ANGLE	FORWARD VOLTAGE (IF=20 mA)		OPERATING TEMPERATURE	FORWARD CURRENT
	①	②	PEAK	TYP.	IF		TYP.	MAX		
KDL 52 - RR	RED	RED	700	5	10	120	2.0	2.5		25
KDL 52 - YY	YELLOW	YELLOW	590	12.5	10	120	2.1	2.5	-55	30
KDL 52 - GG	GREEN	GREEN	565	12.5	10	120	2.2	2.5	10	25
KDL 52 - SS	SUPER RED	SUPER RED	625	20	10	120	2.0	2.5	+100	30
KDL 52 - II	IPER RED	IPER RED	660	100	20	120	1.85	2.5		30
MULTICOLOURED										
KDL 52 - GR	GREEN	RED								
KDL 52 - YR	YELLOW	RED								
KDL 52 - YG	YELLOW	GREEN								
KDL 52 - SG	SUPER RED	GREEN								
KDL 52 - SY	SUPER RED	YELLOW								
KDL 52 - RG	RED	GREEN								
KDL 52 - RY	RED	YELLOW								
KDL 52 - GY	GREEN	YELLOW								
KDL 52 - GS	GREEN	SUPER RED								
KDL 52 - YS	YELLOW	SUPER RED								
LOW CURRENT										
KDL 52 - RRL	RED	RED	625	2	2	120	1.8	2.5		7.5
KDL 52 - YYL	YELLOW	YELLOW	590	2	2	120	1.9	2.5	-55	7.5
KDL 52 - GGL	GREEN	GREEN	565	2	2	120	1.9	2.5	10	7.5
KDL 52 - IIL	IPER RED	IPER RED	660	20	2	120	1.85	2.5	+100	7.5
QUALITY TESTED 100%	DIFFUSED		nm	mod	mA	DEGREE	V	V	°C	mA



MATERIAL SPECIFICATION

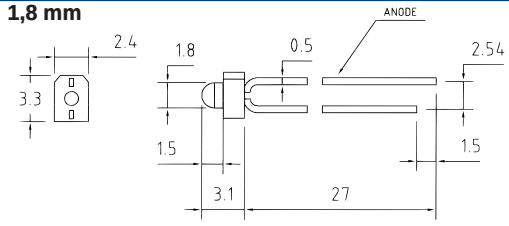
- HOUSING: BLACK NORYL, UL94 V-0
- SOLDERING TEMPERATURE: 260°C ≤ 6 sec.
- FLAMABILITY: UL 94 V-0 and acc. VDE 0304 part3
- CLIMATE: DIN 40040
- TERMINATIONS: □ 0.5 mm leads
- Mean Time Between Failure:
 - standard 100.000 hours
 - low current 250.000 hours

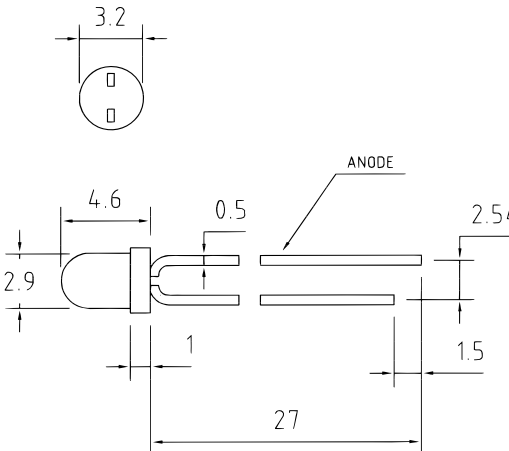
OPTIONS AVAILABLE

- 5 V & 12 V INTEGRATED RESISTOR
- BICOLOUR/TRICOLOUR & BIPOLAR
- BLUE OR WHITE LEDs
- ULTRABRIGHT - INFRARED & PHOTOTRANSISTORS
- LED CASE: WATER CLEAR - TRANSPARENT - WHITE
- FLAT TOP & BLINKING LEDs
- SPECIAL LEDs ON REQUEST

KHATOD® OPTOELECTRONIC

ROUND LED LAMPS

TYPE	EMITTED COLOUR + MATERIAL	WAVE- LENGHT (nm)	LENS TYPE	Iv (mcd) @10mA	VIEWING ANGLE	DIMENSION IN mm (TYPICAL)
				TYPICAL	201/2	
KU-01 HD	GaP	700	RED DIFFUSED	3.5	70°	1,8 mm
KU-01 ID	GaAsP/GaP	625	RED DIFFUSED	32.0		
KU-01 ED	GaAsP/GaP	625	ORANGE DIFFUSED			
KU-01 GD	GaP	565	GREEN DIFFUSED	5.0		
KU-01 YD	GaAsP/GaP	590	YELLOW DIFFUSED			
KU-01 SR	GaAlAs	660	RED DIFFUSED	50.0	30°	
KU-01 SRW		660	WATER CLEAR	120.0		

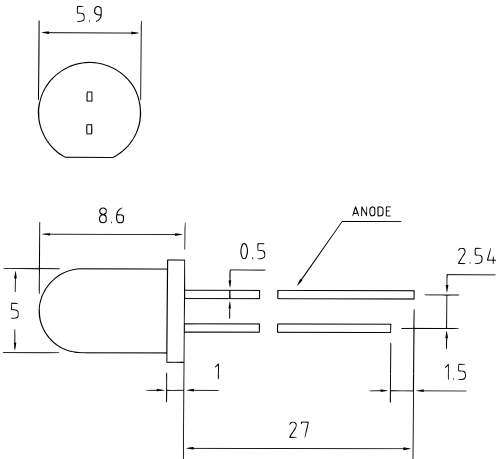
KP-02 GD	GaP	569	GREEN DIFFUSED	12.5	60°	3 mm (T-1) 
KP-02 HD	GaAsP/GaP	626	RED DIFFUSED	6.5		
KP-02 YD	GaAsP/GaP	585	YELLOW DIFFUSED	12.5		
KU-02 HD	GaP	700	RED DIFFUSED	5.0		
KU-02 ID	GaAsP/GaP	625	RED DIFFUSED	50.0		
KU-02 IT	GaAsP/GaP	625	RED TRANSPARENT	125.0	50°	
KU-02 EC	GaAsP/GaP	625	WATER CLEAR	125.0	50°	
KU-02 ED	GaAsP/GaP	625	ORANGE DIFFUSED	50.0	60°	
KU-02 GD	GaP	565	GREEN DIFFUSED	32.0	60°	
KU-02 GT	GaP	565	GREEN TRANSPARENT	80.0	50°	
KU-02 GC	GaP	565	WATER CLEAR	80.0	50°	
KU-02 YD	GaAsP/GaP	590	YELLOW DIFFUSED	32.0	60°	
KU-02 YT	GaAsP/GaP	590	YELLOW TRANSPARENT	50.0	50°	
KU-02 YC	GaAsP/GaP	590	WATER CLEAR	50.0	50°	
LOW CURRENT						
KP-02 GDL	GaP	569	GREEN DIFFUSED	2.7	60°	
KP-02 RDL	GaAsP/GaP	626	RED DIFFUSED	2.7	60°	
KP-02 YDL	GaAsP/GaP	585	YELLOW DIFFUSED	2.7	60°	
KU-02 GDL	GaP	565	GREEN DIFFUSED	3.2	60°	
KU-02 IDL	GaAl/As	660	RED DIFFUSED	20	60°	
KU-02 RDL	GaAsP/GaP	625	RED DIFFUSED	5	50°	
KU-02 YDL	GaAsP/GaP	590	YELLOW DIFFUSED	32	60°	

KU-03 HD	GaP	700	RED DIFFUSED	5.0	60°
KU-03 ID	GaAsP/GaP	625	RED DIFFUSED	80.0	60°
KU-03 IT	GaAsP/GaP	625	RED TRANSPARENT	200.0	30°
KU-03 EC	GaAsP/GaP	625	WATER CLEAR	200.0	30°
KU-03 ED	GaAsP/GaP	625	ORANGE DIFFUSED	80.0	60°
KU-03 GD	GaP	565	GREEN DIFFUSED	32.0	60°
KU-03 GT	GaP	565	GREEN TRANSPARENT	80.0	30°
KU-03 GC	GaP	565	WATER CLEAR	80.0	30°
KU-03 YD	GaAsP/GaP	590	YELLOW DIFFUSED	32.0	60°
KU-03 YT	GaAsP/GaP	590	YELLOW TRANSPARENT	80.0	30°
KU-03 YC	GaAsP/GaP	590	WATER CLEAR	80.0	30°
KU-03 BGR (Bicolor)	GaAlAs	660	WHITE DIFFUSED	200.0	50°
	GaP	565		40.0	

LOW CURRENT

KU-03 GDL	GaP	565	GREEN DIFFUSED	3.6	60°
KU-03 RDL	GaAsP/GaP	625	RED DIFFUSED	5	
KU-03 IDL	GaAl/As	660	RED DIFFUSED	20	
KU-03 YDL	GaAsP/GaP	590	YELLOW DIFFUSED	3.6	

5 mm (T-1 3/4)

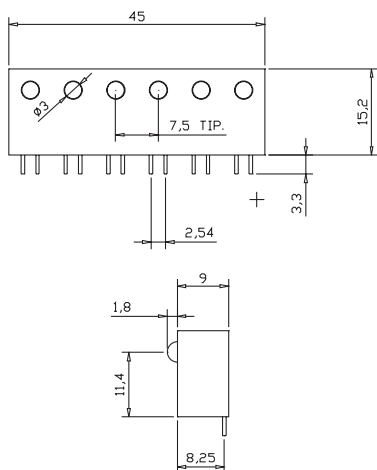


◆ AVAILABLE TECNICAL DATA

SAMPLES AVAILABLE

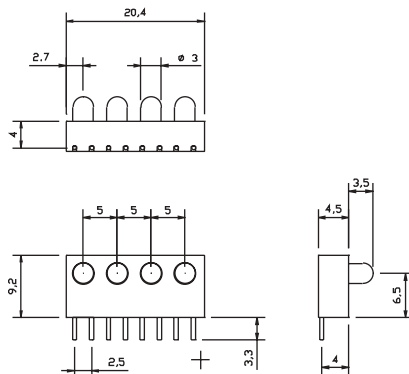
Downloaded from Arrow.com

K21599



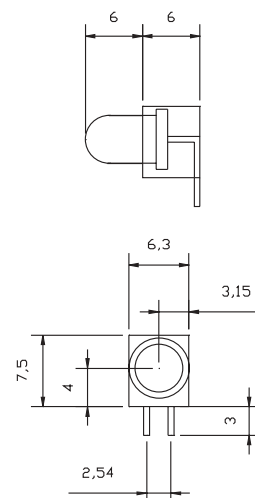
Dimensions in mm (typical)

K37401



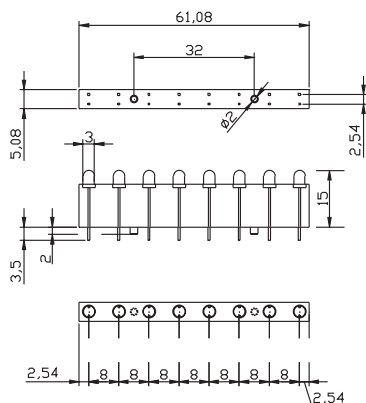
Dimensions in mm (typical)

K52302



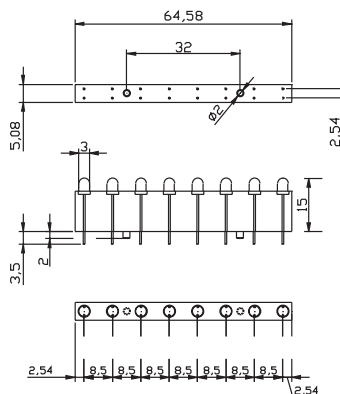
Dimensions in mm (typical)

KSI67403



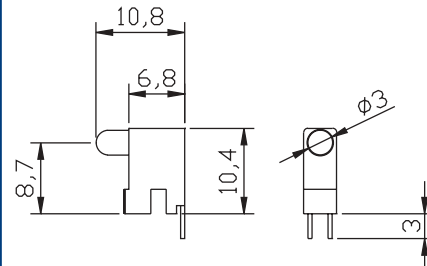
Dimensions in mm (typical)

KSI67603



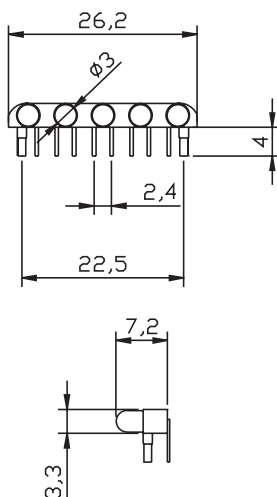
Dimensions in mm (typical)

K32900



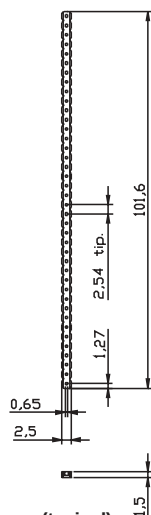
Dimensions in mm (typical)

K32800



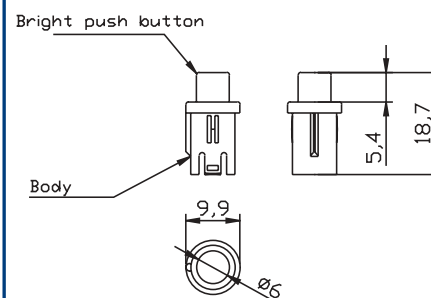
Dimensions in mm (typical)

KMH32



Dimensions in mm (typical)

KST66403



Dimensions in mm (typical)