

Legal and additional information

About Samsung Electronics Co., Ltd.

Samsung Electronics Co., Ltd. inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, cameras, digital appliances, printers, medical equipment, network systems, and semiconductor and LED solutions. For the latest news, please visit the Samsung Newsroom at news.samsung.com

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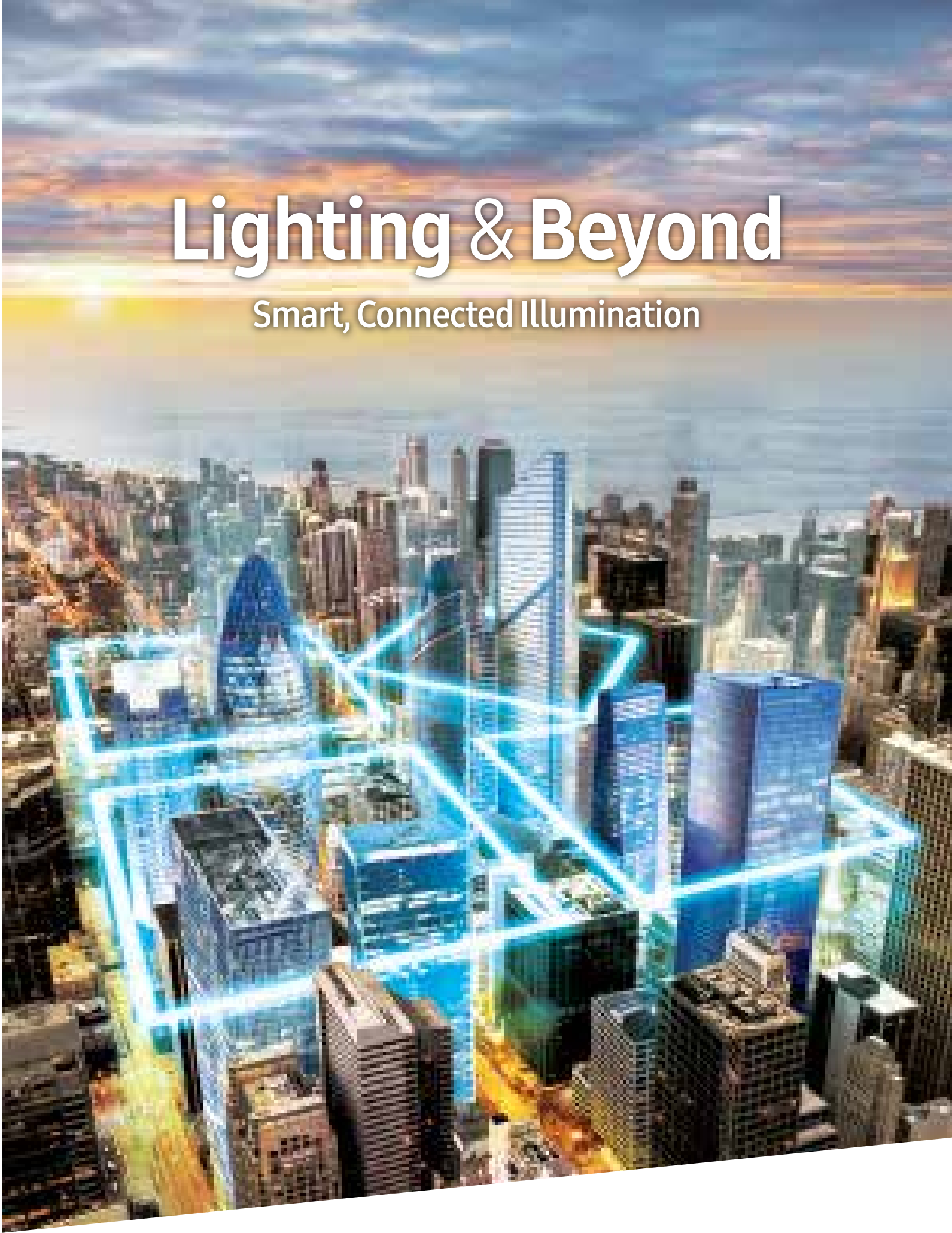
www.samsungled.com

Rev.3 Aug.2016

SAMSUNG

Lighting & Beyond

Smart, Connected Illumination



| Samsung LED Component

SAMSUNG

Overview & Technology

Samsung Electronics Co., Ltd. is a global leader in consumer electronics and the core components that go into them.

Overview

Samsung's global network extends across the world where the creativity, expertise and diverse perspectives of employees are helping to drive growth.

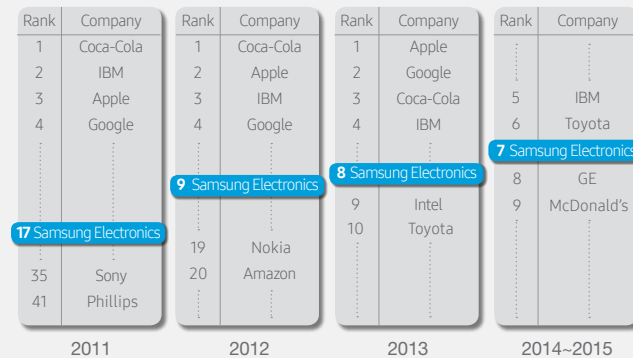
* As of December 2015

Manufacturing Subsidiaries	32
R&D	33
Design Centers	6
Regional Headquarters	14

Brand Value

Ranked 7th in Global Brand Value,
Samsung recorded a brand
value of \$45.3 Billion in 2015.

* Source : Interbrand / Business Week



Intellectual Property

In 2015, Samsung registered 5,072 new patents at the U.S. Patent & Trade Office. This placed it as the second-highest U.S. patent winner, a position it has held for the 10 consecutive years since 2006.

* As of December 2015



2015 US Patents Registration

* Source: The U.S. Patent and Trademark Office (USPTO)

SAMSUNG

Samsung aspires to create new technologies and innovative products that inspire the world, while delivering new value to enhance the lives of customers, partners and employees.

Vertical Integration

Unique company that has full in-house solutions from raw material to Light Engines and Smart Lighting Platform



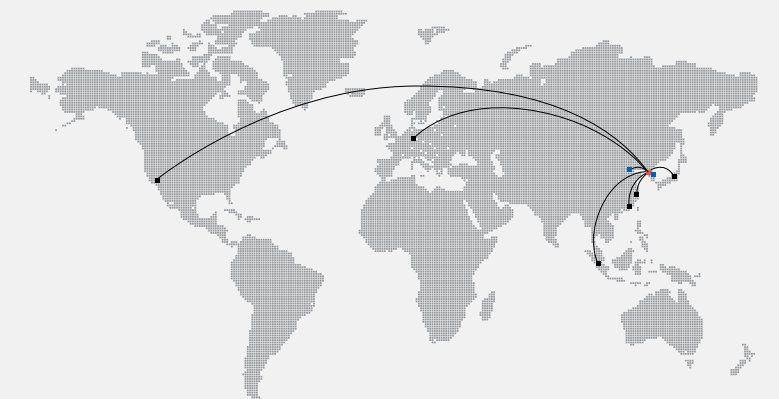
High Reliability

Quality management & design
verification system for
optimizing time-to-market



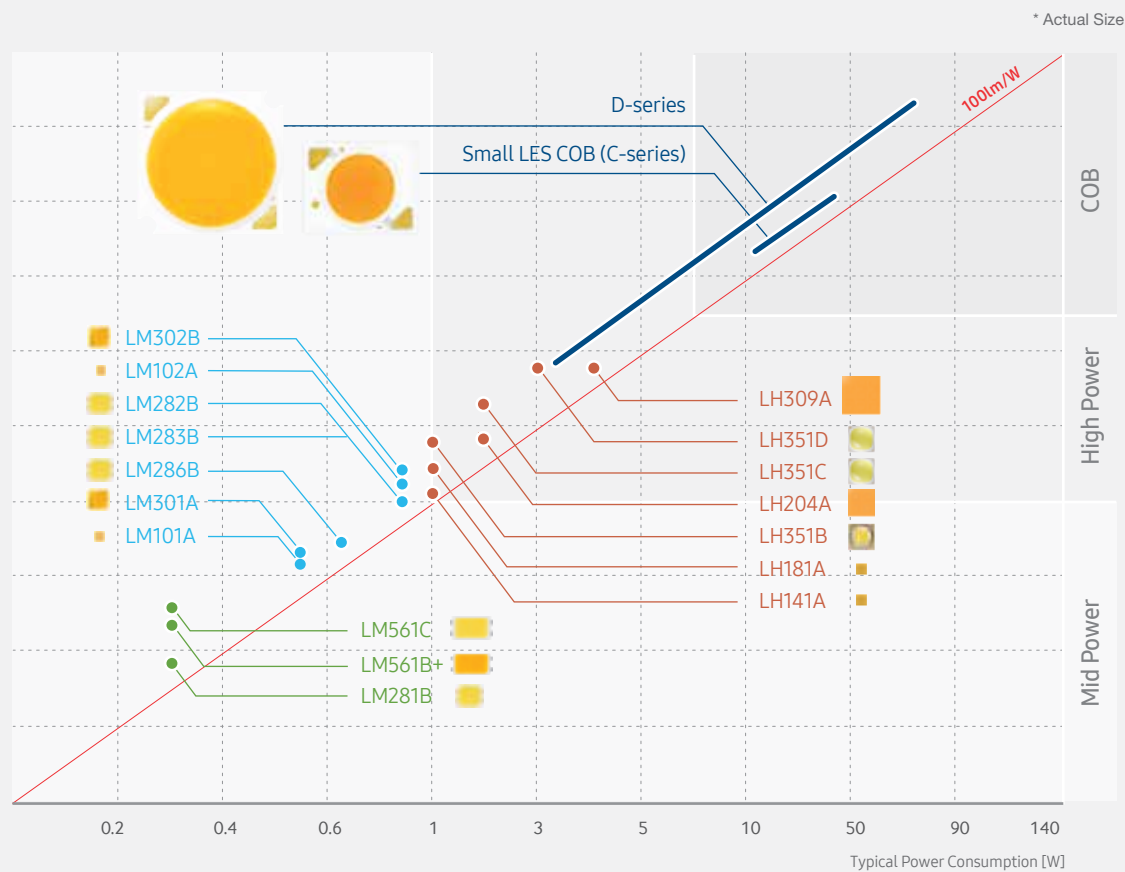
World Best SCM

Reliable, on-time delivery without delays



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Samsung LED Line-up for illumination



Mid Power LED (0.3W)

- High efficacy
- Replacement for fluorescent lamps
- LED Tube, Ambient Light

High Power LED

- Ultra high flux
- Provides excellent color consistency
- Spotlight, Street Light

Mid Power LED (~1W)

- High flux & better lm/\$
- Replacement for incandescent lamps
- Retrofit Bulb, MR/PAR, Downlight

COB

- Chip on Board solution
- Outstanding color rendering & consistency
- Spotlight, High Bay & Low Bay Light

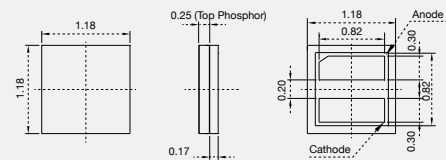
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CSP

LM101A

Compact form factor for design flexibility

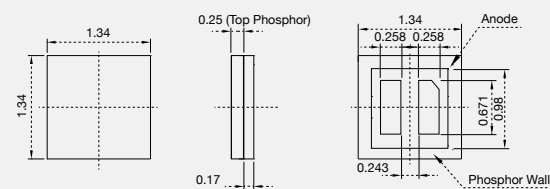
- 0.5W class mid power 3V LED
- Compact footprint: 1.18mm × 1.18mm



LM102A

Compact form factor for design flexibility

- 1W class mid power 6V LED
- Compact footprint: 1.34mm × 1.34mm



[150mA, 85°C]

CRI Min.	CCT (K)	Luminous Flux (lm) Min.	Luminous Flux (lm) Max.	IF (mA)	Part Number
70	3000	55	67	150	SCP7VT78HPL1V☆S06E
	3500	55	67		SCP7UT78HPL1U☆S06E
	4000	59	71		SCP7TT78HPL1T☆S06E
	5000	59	71		SCP7RT78HPL1R☆S06E
	5700	59	71		SCP7QT78HPL1Q☆S06E
	6500	59	71		SCP7PT78HPL1P☆S06E
80	2700	47	59	150	SCP8WT78HPL1W☆S06E
	3000	51	63		SCP8VT78HPL1V☆S06E
	3500	51	63		SCP8UT78HPL1U☆S06E
	4000	55	67		SCP8TT78HPL1T☆S06E
	5000	55	67		SCP8RT78HPL1R☆S06E
	5700	51	63		SCP8QT78HPL1Q☆S06E
90	6500	51	63	150	SCP8PT78HPL1P☆S06E
	2700	35	47		SCP9WT78HPL1W☆S06E
	3000	35	47		SCP9VT78HPL1V☆S06E
	3500	39	51		SCP9UT78HPL1U☆S06E

※ Bin option is available, please refer to data sheet for more details.
※ Note: "☆" can be "L" (Full bin for MacAdam 5-step), "K" (Kitting bin for MacAdam 3-step)

[150mA, 85°C]

CRI Min.	CCT (K)	Luminous Flux (lm) Min.	Luminous Flux (lm) Max.	IF (mA)	Part Number
70	3000	103	119	150	SCS7VT93HPL2V☆S03F
	3500	103	119		SCS7UT93HPL2U☆S03F
	4000	111	127		SCS7TT93HPL2T☆S03F
	5000	111	127		SCS7RT93HPL2R☆S03F
	5700	111	127		SCS7QT93HPL2Q☆S03F
	6500	111	127		SCS7PT93HPL2P☆S03F
80	2700	95	111	150	SCS8WT93HPL2W☆S03F
	3000	95	111		SCS8VT93HPL2V☆S03F
	3500	103	119		SCS8UT93HPL2U☆S03F
	4000	103	119		SCS8TT93HPL2T☆S03F
	5000	111	127		SCS8RT93HPL2R☆S03F
	5700	103	119		SCS8QT93HPL2Q☆S03F
90	6500	103	119	150	SCS8PT93HPL2P☆S03F
	2700	79	95		SCS9WT93HPL2W☆S03F
	3000	79	95		SCS9VT93HPL2V☆S03F
	3500	79	95		SCS9UT93HPL2U☆S03F

※ Bin option is available, please refer to data sheet for more details.
※ Note: "☆" can be "L" (Full bin for MacAdam 5-step), "K" (Kitting bin for MacAdam 3-step)

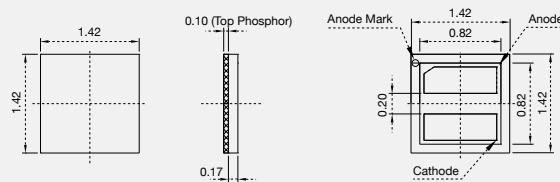
SAMSUNG

CSP

LM131A

Compact form factor for design flexibility

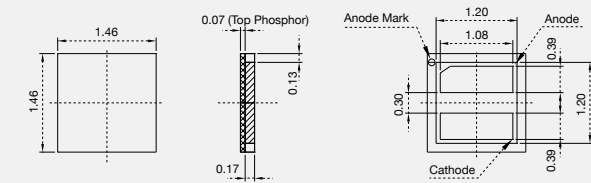
- 1W class mid power 3V LED
- Surface emitted LED (120° Beam angle)
- Compact footprint: 1.42mm x 1.42mm



LH141A

Samsung flip chip provides optimized solution for torch / flash light

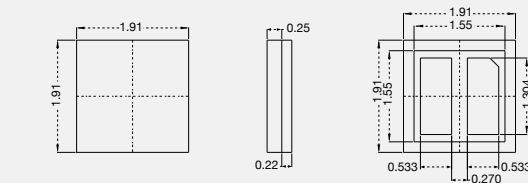
- 2W class high power LED
- Phosphor film directly attached to flip chip surface
- Plastic-free structure delivers low thermal resistance
- Compact footprint: 1.46mm x 1.46mm



LH181A

Compact form factor for design flexibility

- 3W class high power CSP
- High performance and superior lm/\$
- Compact footprint: 1.9mm x 1.9mm



CRI Min.	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
80	2700	82	106	300	SCS8WT78EFL1W08ECK
	3000	86	110		SCS8VT78EFL1V09FCK
	4000	94	118		SCS8TT78EFL1T0BHCK
	5000	98	122		SCS8RT78EFL1R0CICK
	6500	94	118		SCS8PT78EFL1P0BHCK

※ Bin option is available, please refer to data sheet for more details.

CRI Min.	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Typ.		
68	5000	110	135	350	SCS6RTB6EFL1R0FZ6K
	6000	110	131		SCS6JTB6EFL1J0FZ6K
	7600	110	124		SCS6NTB6EFL1N0FZ6K

※ Bin option is available, please refer to data sheet for more details.

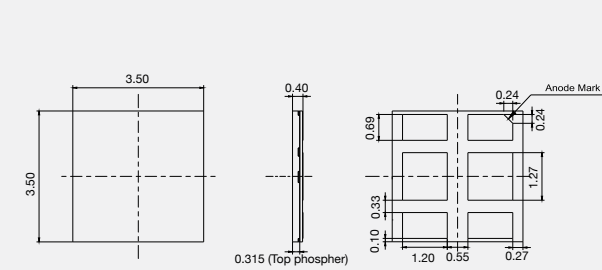
CRI Min.	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Typ.	Max.		
70	2700	120	150	350	SCP7WTF1MPL1W0J34E
	3000	130	160		SCP7VTF1MPL1V0K34E
	3500	130	160		SCP7UTF1MPL1U0K34E
	4000	140	170		SCP7TTF1MPL1T0M34E
	5000	140	170		SCP7RTF1MPL1RTM34E
75	5700	140	170	350	SCP7QTF1MPL1QTM34E
	6500	140	170		SCP7PTF1MPL1PTM34E
	5000	130	160		SCP8WTF1MPL1W0J34E
	5700	130	160		SCP8VTF1MPL1V0K34E
	2700	120	150		SCP8RTF1MPL1RTK34E
80	3000	130	160	350	SCP8UTF1MPL1U0K34E
	4000	130	160		SCP8TTF1MPL1T0K34E
	5000	130	160		SCP8PTF1MPL1PTM34E
	5700	140	170		SCP8QTF1MPL1QTM34E
	6500	140	170		SCP8RTF1MPL1RTK34E

※ Bin option is available, please refer to data sheet for more details.

LH204A

Designed for better lm/\$ & lm/W with Single LES

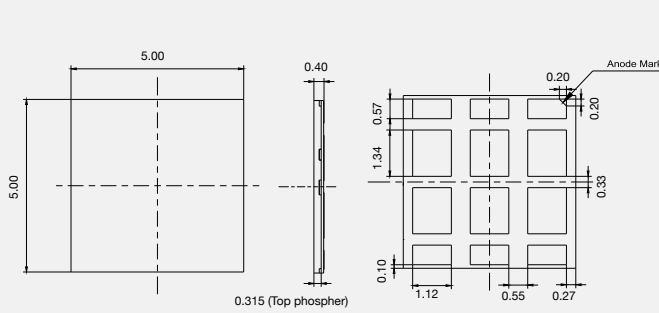
- ~4W Class high power LED
- High voltage CSP 2x2 Array providing 138lm/W, 240lm (150mA/11.6V)
- Footprint: 3.5mm x 3.5mm



LH309A

Designed for better lm/\$ & lm/W with Single LES

- ~7W Class high power LED
- High voltage CSP 3x3 Array providing 141lm/W, 550lm (150mA/26V)
- Footprint: 5.0mm x 5.0mm



CRI Min.	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
70	3000	215	260	150	SCA7VT78HAL4V0BG1F
	3500	215	260		SCA7UT78HAL4U0BG1F
	4000	215	260		SCA7TT78HAL4T0BG1F
	5000	230	280		SCA7RT78HAL4RTDH1F
	5700	230	280		SCA7QT78HAL4QTDH1F
80	6500	215	260	150	SCA7PT78HAL4PTBG1F
	2700	200	245		SCA8WT78HAL4W0AE1F
	3000	200	245		SCA8VT78HAL4V0AE1F
	3500	200	245		SCA8UT78HAL4U0AE1F
	4000	215	260		SCA8TT78HAL4T0BG1F
90	5000	215	260	150	SCA8RT78HAL4RTBG1F
	2700	165	200		SCA9WT78HAL4W06A1F
	3000	165	200		SCA9VT78HAL4V06A1F
	3500	175	215		SCA9UT78HAL4U07B1F
	4000	175	215		SCA9TT78HAL4T07B1F

※ Bin option is available, please refer to data sheet for more details.

CRI Min.	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
70	3000	475	585	150	SCA7VT78HAL9V08FEP
	3500	510	625		SCA7UT78HAL9U0AJEP
	4000	510	625		SCA7TT78HAL9T0AJEP
	5000	510	625		SCA7RT78HAL9RTAJEP
	5700	510	625		SCA7QT78HAL9QTAJEP
80	6500	510	625	150	SCA7PT78HAL9PTAJEP
	2700	445	545		SCA8WT78HAL9W06DEP
	3000	445	545		SCA8VT78HAL9V06DEP
	3500	475	585		SCA8UT78HAL9U08FEP
	4000	475	585		SCA8TT78HAL9T08FEP
90	5000	510	625	150	SCA8RT78HAL9RTAJEP
	2700	365	445		SCA9WT78HAL9W006EP
	3000	390	475		SCA9VT78HAL9V028EP
	3500	390	475		SCA9UT78HAL9U028EP
	4000	390	475		SCA9TT78HAL9T028EP

※ Bin option is available, please refer to data sheet for more details.

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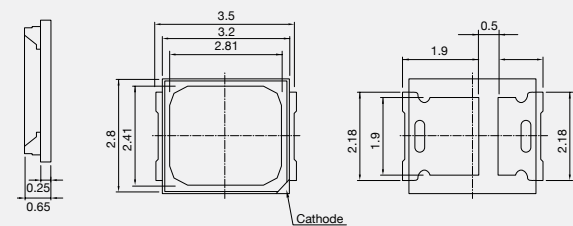
SAMSUNG

Mid Power LEDs

LM281B

Designed for better lm/\$

- Suitable for ambient lightings, downlights & lamps
- Standard footprint: 2.8mm x 3.5mm



[150mA, 25°C]

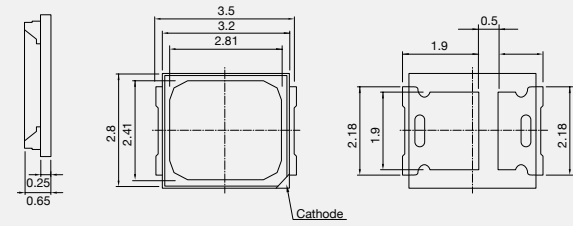
CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
80	2700	53.3	65.3	150	SPMWH1228FD5WAW0S3
	3000	54.3	66.3		SPMWH1228FD5WAV0S3
	3500	55.3	67.3		SPMWH1228FD5WU0S3
	4000	57.3	69.3		SPMWH1228FD5WAT0S3
	5000	59.3	71.3		SPMWH1228FD5WAR0S3
	5700	58.3	70.3		SPMWH1228FD5WAQ0S3
	6500	57.3	69.3		SPMWH1228FD5WAP0S3

※ Bin option is available, please refer to data sheet for more details.

LM282B

Designed for better lm/\$

- 0.5W class mid power LED (6V)
- Suitable for downlights, ambient lightings & lamps
- Standard footprint: 2.8mm x 3.5mm



[100mA, 25°C]

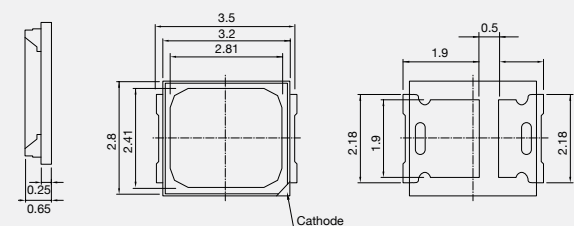
CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
80	2700	98	108	150	SPMWH1221FD5GBW0SA
	3000	100	110		SPMWH1221FD5GBV0SA
	3500	103	113		SPMWH1221FD5GBU0SA
	4000	105	115		SPMWH1221FD5GBT0SA
	5000	110	120		SPMWH1221FD5GBR0SA
	5700	108	118		SPMWH1221FD5GBQ0SA
	6500	105	115		SPMWH1221FD5GBP0SA

※ Bin option is available, please refer to data sheet for more details.

LM283B

Designed for better lm/\$

- 0.5W class mid power LED (9V)
- Suitable for lamps & downlights
- Standard footprint: 2.8mm x 3.5mm



[100mA, 25°C]

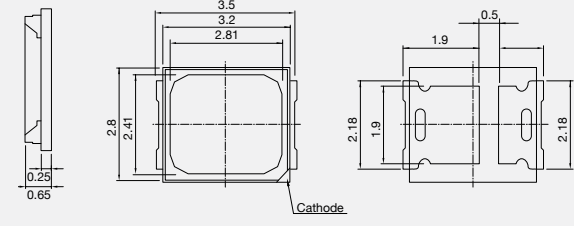
CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
80	2700	98	118	100	SPMWH1229AD5SGW0SA
	3000	100	120		SPMWH1229AD5SGV0SA
	3500	103	123		SPMWH1229AD5SGU0SA
	4000	105	125		SPMWH1229AD5SGT0SA
	5000	110	130		SPMWH1229AD5SGR0SA
	5700	108	128		SPMWH1229AD5SGQ0SA
	6500	105	125		SPMWH1229AD5SGP0SA

※ Bin option is available, please refer to data sheet for more details.

LM286B

Designed for better lm/\$

- 0.5W class mid power LED (18V)
- Suitable for lamps & downlights
- Standard footprint: 2.8mm x 3.5mm



[100mA, 25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
80	2700	80	90	40	SPMWH12244D5W8W0SA
	3000	85	95		SPMWH12244D5W8V0SA
	3500	90	100		SPMWH12244D5W8U0SA
	4000	95	105		SPMWH12244D5W8T0SA
	5000	95	105		SPMWH12244D5W8R0SA
	5700	95	105		SPMWH12244D5W8Q0SA
	6500	92	102		SPMWH12244D5W8P0SA

※ Bin option is available, please refer to data sheet for more details.

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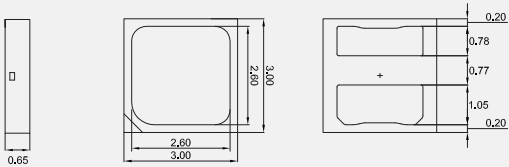
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Mid Power LEDs

LM301A

Designed for best lm/\$

- Mid-high power LED
- EMC resin for high reliability
- Suitable for high bay lightings & downlights
- Standard footprint: 3.0mm x 3.0mm



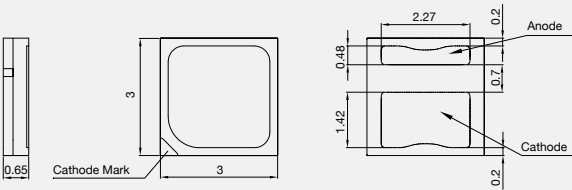
CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
90	2700	38	46	150	SPMWHT328FD7WAW0S0
	3000	38	46		SPMWHT328FD7WAV0S0
	3500	38	46		SPMWHT328FD7WAU0S0
	4000	42	50		SPMWHT328FD7WAT0S0
	5000	42	50		SPMWHT328FD7WAR0S0
	5700	42	50		SPMWHT328FD7WAQ0S0
80	6500	42	50		SPMWHT328FD7WAP0S0
	2700	50	58	150	SPMWHT328FD5WAW0S0
	3000	54	62		SPMWHT328FD5WAV0S0
	3500	58	66		SPMWHT328FD5WAU0S0
	4000	58	66		SPMWHT328FD5WAT0S0
	5000	58	66		SPMWHT328FD5WAR0S0
70	5700	58	66		SPMWHT328FD5WAQ0S0
	6500	58	66		SPMWHT328FD5WAP0S0
	2700	58	66	150	SPMWHT328FD3WAW0S0
	3000	58	66		SPMWHT328FD3WAV0S0
	3500	58	66		SPMWHT328FD3WAU0S0
	4000	62	70		SPMWHT328FD3WAT0S0
	5000	62	70		SPMWHT328FD3WAR0S0
	5700	62	70		SPMWHT328FD3WAQ0S0

※ Bin option is available, please refer to data sheet for more details.

LM302A

Designed for best lm/\$

- 1W class mid-high power LED (6V)
- EMC resin for high reliability
- Suitable for lamps & downlights
- Standard footprint: 3.0mm x 3.0mm



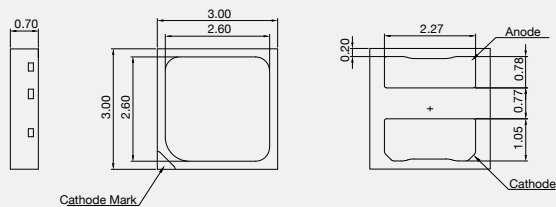
CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
90	2700	80	96	150	SPMWHT327FD7GBW0S0
	3000	85	101		SPMWHT327FD7GBV0S0
	3500	87	103		SPMWHT327FD7GBU0S0
	4000	89	105		SPMWHT327FD7GBT0S0
	5000	87	103		SPMWHT327FD7GBR0S0
	5700	85	101		SPMWHT327FD7GBQ0S0
80	6500	83	99		SPMWHT327FD7GBP0S0
	2700	102	126	150	SPMWHT327FD5GBW0S0
	3000	104	128		SPMWHT327FD5GBV0S0
	3500	107	131		SPMWHT327FD5GBU0S0
	4000	109	133		SPMWHT327FD5GBT0S0
	5000	113	137		SPMWHT327FD5GBR0S0
70	5700	111	135		SPMWHT327FD5GBQ0S0
	6500	109	133		SPMWHT327FD3GBW0S0
	2700	112	138	150	SPMWHT327FD3GBV0S0
	3000	117	143		SPMWHT327FD3GBT0S0
	3500	121	147		SPMWHT327FD3GBR0S0
	4000	119	145		SPMWHT327FD3GBQ0S0
	5000	119	145		SPMWHT327FD3GBU0S0
	5700	119	145		SPMWHT327FD3GBW0S0

※ Bin option is available, please refer to data sheet for more details.

LM302B

Designed for best lm/\$

- Superior mid power LED with wide over-drive range up to 1.5W
- Mold resin for high reliability
- Suitable for high/low bay lightings & downlights
- Standard footprint: 3.0mm x 3.0mm



CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
90	2700	70	88	150	SPMWHT329FD7YBW0S0
	3000	70	88		SPMWHT329FD7YBV0S0
	3500	79	97		SPMWHT329FD7YBU0S0
	4000	79	97		SPMWHT329FD7YBT0S0
	5000	79	97		SPMWHT329FD7YBR0S0
	5700	79	97		SPMWHT329FD7YBQ0S0
80	6500	79	97		SPMWHT329FD7YBP0S0
	2700	97	115	150	SPMWHT329FD5YBW0S0
	3000	97	115		SPMWHT329FD5YBV0S0
	3500	106	124		SPMWHT329FD5YBU0S0
	4000	115	133		SPMWHT329FD5YBT0S0
	5000	115	133		SPMWHT329FD5YBR0S0
70	5700	115	133		SPMWHT329FD5YBQ0S0
	6500	115	133		SPMWHT329FD5YBP0S0
	2700	106	124	150	SPMWHT329FD3YBW0S0
	3000	106	124		SPMWHT329FD3YBV0S0
	3500	106	124		SPMWHT329FD3YBU0S0
	4000	115	133		SPMWHT329FD3YBT0S0
	5000	115	133		SPMWHT329FD3YBR0S0
	5700	115	133		SPMWHT329FD3YBQ0S0

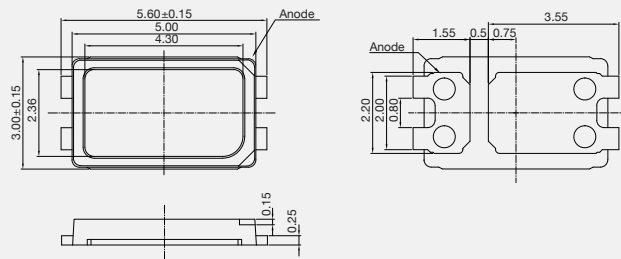
※ Bin option is available, please refer to data sheet for more details.

SAMSUNG

LM561B Plus

Improved efficacy and performance of LM561B to provide better solutions

- 0.3W class mid power LED
- High efficacy for distributed light
- Standard footprint: 5.6mm x 3.0mm



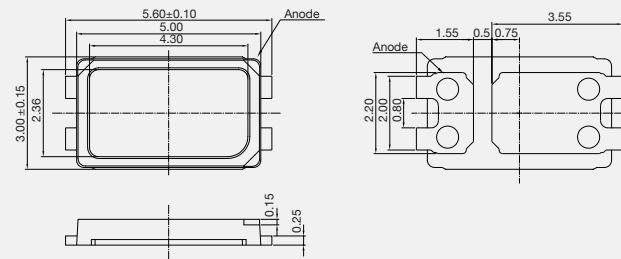
CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
90	2700	22	28	65	SPMWHT541MP7WAW0S0
	3000	22.5	28.5		SPMWHT541MP7WAV0S0
	3500	23	29		SPMWHT541MP7WAU0S0
	4000	24	30		SPMWHT541MP7WAT0S0
	5000	25	31		SPMWHT541MP7WAR0S0
	5700	24.5	30.5		SPMWHT541MP7WAQ0S0
80	6500	24	30		SPMWHT541MP7WAP0S0
	2700	30	34	65	SPMWHT541MP5WAW0S0
	3000	30.5	34.5		SPMWHT541MP5WAV0S0
	3500	31	35		SPMWHT541MP5WAU0S0
	4000	32	36		SPMWHT541MP5WAT0S0
	5000	33	37		SPMWHT541MP5WAR0S0
MacAdam 3 step	5700	32.5	36.5		SPMWHT541MP5WAQ0S0
	6500	32	36		SPMWHT541MP5WAP0S0
	2700	30	34	65	SPMWHT541MP5WAW0S0
	3000	30.5	34.5		SPMWHT541MP5WAV0S0
	3500	31	35		SPMWHT541MP5WAU0S0
	4000	32	36		SPMWHT541MP5WAT0S0
70	5000	33	37		SPMWHT541MP5WAR0S0
	5700	32.5	36.5		SPMWHT541MP5WAQ0S0
	6500	32	36		SPMWHT541MP5WAP0S0
	2700	30	34	65	SPMWHT541MP3WAW0S0
	3000	30.5	34.5		SPMWHT541MP3WAV0S0
	3500	31	35		SPMWHT541MP3WAU0S0
	4000	32	36		SPMWHT541MP3WAT0S0
	5000	33	39		SPMWHT541MP3WAR0S0
	5700	32.5	36.5		SPMWHT541MP3WAQ0S0

※ Bin option is available, please refer to data sheet for more details.

LM561C

Highest performance, highest lm/W for fluorescent lamp replacement

- 0.3W class mid power LED
- Highest efficacy: 205lm/W @ 65mA, 5000K, 80CRI
- Standard footprint: 5.6mm x 3.0mm



CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
90	2700	24	30	65	SPMWHT541ML7XAW0S0
	3000	24.5	30.5		SPMWHT541ML7XAV0S0
	3500	25	31		SPMWHT541ML7XAU0S0
	4000	26	32		SPMWHT541ML7XAT0S0
	5000	27	31		SPMWHT541ML7XAR0S0
	5700	26.5	30.5		SPMWHT541ML7XAQ0S0
80	6500	26	30		SPMWHT541ML7XAP0S0
	2700	30	34	65	SPMWHT541ML5XAW0S0
	3000	30.5	34.5		SPMWHT541ML5XAV0S0
	3500	31	35		SPMWHT541ML5XAU0S0
	4000	32	36		SPMWHT541ML5XAT0S0
	5000	33	37		SPMWHT541ML5XAR0S0
70	5700	32.5	36.5		SPMWHT541ML5XAQ0S0
	6500	32	36		SPMWHT541ML5XAP0S0
	2700	30	34	65	SPMWHT541ML3XAW0S0
	3000	30.5	34.5		SPMWHT541ML3XAV0S0
	3500	31	35		SPMWHT541ML3XAU0S0
	4000	32	36		SPMWHT541ML3XAT0S0
	5000	33	37		SPMWHT541ML3XAR0S0
	5700	32.5	36.5		SPMWHT541ML3XAQ0S0

※ Bin option is available, please refer to data sheet for more details.

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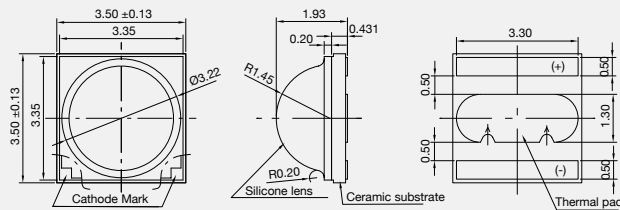
High Power LEDs

LH351B



High performance for outdoor and directional lighting applications

- Operates at a maximum current of up to 1.5A
- High efficacy outdoor solution
(Delivering set efficacy over 110lm/W @700mA)
- Excellent efficacy: 172lm/W @ 350mA, 85°C 5000K
- LM80 Certified @ 1A, 105°C (Ts) (L70>60,000 @1A)
- Footprint: 3.5mm x 3.5mm

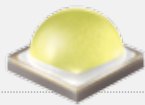


[350mA, 85°C]					
CRI Min.	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
90	2700	90	120		SPHWH2L3D30GD4W0F3
	3000	90	120		SPHWH2L3D30GD4V0F3
	3500	100	130		SPHWH2L3D30GD4U0G3
		110	140		SPHWH2L3D30GD4U0H3
	2700	110	140		SPHWH2L3D30ED4W0H3
		120	150		SPHWH2L3D30ED4W0J3
80	3000	110	140		SPHWH2L3D30ED4V0H3
		120	150		SPHWH2L3D30ED4V0J3
	3500	120	150		SPHWH2L3D30ED4V0K3
		130	160		SPHWH2L3D30ED4U0J3
	4000	120	150		SPHWH2L3D30ED4U0K3
		130	160		SPHWH2L3D30ED4T0J3
75	5000	130	160		SPHWH2L3D30ED4T0K3
		140	170		SPHWH2L3D30ED4T0M3
	5700	130	160		SPHWH2L3D30ED4RTK3
		140	170		SPHWH2L3D30ED4RTM3
	6000	130	160		SPHWH2L3D30ED4QTK3
		140	170		SPHWH2L3D30ED4QTM3
70	6500	130	160		SPHWH2L3D30ED4PQK3
		140	170		SPHWH2L3D30ED4PQM3
	3000	130	160		SPHWH2L3D30ED4PTK3
		140	170		SPHWH2L3D30ED4PTM3
	5000	140	170	350	SPHWH1L3D30DD4RTM3
		150	180		SPHWH1L3D30DD4RTN3
80	5700	160	190		SPHWH1L3D30DD4RTP3
		140	170		SPHWH1L3D30DD4QTM3
	3000	150	180		SPHWH1L3D30DD4QTN3
		160	190		SPHWH1L3D30DD4QTP3
	3500	130	160		SPHWH2L3D30CD4V0K3
		140	170		SPHWH2L3D30CD4V0M3
70	4000	140	170		SPHWH2L3D30CD4V0N3
		150	180		SPHWH2L3D30CD4U0K3
	5000	130	160		SPHWH2L3D30CD4U0M3
		140	170		SPHWH2L3D30CD4T0M3
	5700	150	180		SPHWH2L3D30CD4T0N3
		160	190		SPHWH2L3D30CD4T0P3
80	6500	140	170		SPHWH2L3D30CD4RTM3
		150	180		SPHWH2L3D30CD4RTN3
	3000	160	190		SPHWH2L3D30CD4RTP3
		140	170		SPHWH2L3D30CD4QTM3
	3500	150	180		SPHWH2L3D30CD4QTN3
		160	190		SPHWH2L3D30CD4QTP3
70	6500	140	170		SPHWH2L3D30CD4PTM3
		150	180		SPHWH2L3D30CD4PTN3

※ Bin option is available, please refer to data sheet for more details.

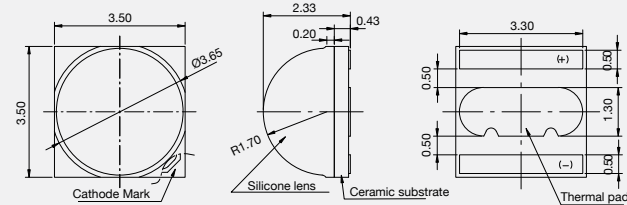
SAMSUNG

LH351C

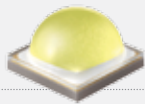


High performance for outdoor and directional lighting applications

- Operates at a maximum current of up to 2.0A
- High efficacy outdoor solution
(Delivering set efficacy over 120lm/W @700mA)
- Excellent efficacy: 160lm/W @700mA, 85°C 5000K
- Footprint: 3.5mm x 3.5mm

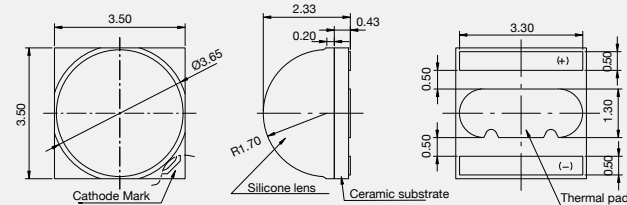


LH351D



High performance for outdoor and directional lighting applications

- Operates at a maximum current of up to 3.0A
- High efficacy outdoor solution
(Delivering set efficacy over 120lm/W @1,050mA)
- Excellent efficacy: 155lm/W @10,50mA, 85°C 5000K
- Footprint: 3.5mm x 3.5mm



[700mA, 85°C]					
CRI Min.	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
90	3000	180	240		SPHWHTL3D50GE4V0F6
	3000	240	300		SPHWHTL3D50EE4V0J6
80	4000	240	300		SPHWHTL3D50EE4T0J6
	5000	260	320		SPHWHTL3D50EE4RTK6
	5700	260	320	700	SPHWHTL3D50EE4QTK6
75	5700	280	340		SPHWHTL3D50DE4QTK6
	4000	280	340		SPHWHTL3D50CE4T0M6
70	5000	280	340		SPHWHTL3D50CE4RTM6
	5700	280	340		SPHWHTL3D50CE4QTM6

※ Bin option is available, please refer to data sheet for more details.

[1,050mA, 85°C]					
CRI Min.	CCT (K)	Luminous Flux (lm)		IF (mA)	Part Number
		Min.	Max.		
90	3000	280	340		SPHWHTL3DA0GF4V0M6
	5700	360	420		SPHWHTL3DA0GF4QTR6
80	3000	360	420		SPHWHTL3DA0EF4V0R6
	4000	360	420		SPHWHTL3DA0EF4T0R6
	5000	380	440	1,050	SPHWHTL3DA0EF4RTS6
75	5700	400	460		SPHWHTL3DA0EF4QTT6
	4000	400	460		SPHWHTL3DA0DF4QTT6
70	5000	420	480		SPHWHTL3DA0CF4T0T6
	5700	420	480		SPHWHTL3DA0CF4RTU6
					SPHWHTL3DA0CF4QTU6

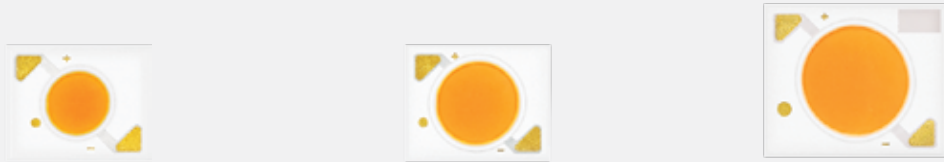
※ Bin option is available, please refer to data sheet for more details.

SAMSUNG

Small LES COB (C-series)

High lumen density COB – high intensity, suitable solution for narrow beam spot & down light

- Samsung new small LES COB adapted new flip chip
- Low droop characteristic by current & Thermal
- High reliability
- Completed 6,000 hours of LM-80 testing



Tc =85°C		LC010C	LC020C	LC040C
LES		6 mm	8 mm	11 mm
Vf		34.5 V		
Watt.	Typ.	9.3 W (270 mA)	18.6 W (540 mA)	37.3 W (1,080 mA)
	Max.	14.6 W (405 mA)	29.2 W (810 mA)	58.5 W (1,620 mA)
Dimension				
Size		12.0 x 15.0 mm		16.0 x 19.0 mm

Product	CRI Min.	CCT (K)	Tc = 85°C Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	IF (mA)	Part Number
LC010C	Vivid	3000	900	97	270	SPHWH2HDNA0VYHV3C1
		3500	925	99		SPHWH2HDNA0VYHU3C1
		4000	950	102		SPHWH2HDNA0VYHT3C1
	90	2700	871	93		SPHWH2HDNA07YHW3C1
		3000	892	96		SPHWH2HDNA07YHV3C1
		3500	903	97		SPHWH2HDNA07YHU3C1
	80	4000	924	99		SPHWH2HDNA07YHT3C1
		2700	998	107		SPHWH2HDNA05YHW3C1
		3000	1,062	114		SPHWH2HDNA05YHV3C1
		3500	1,113	119		SPHWH2HDNA05YHU3C1
		4000	1,156	124		SPHWH2HDNA05YHT3C1
		5000	1,211	130		SPHWH2HDNA05YHRTC1
		5700	1,211	130		SPHWH2HDNA05YHQTC1
LC020C	Vivid	3000	1,800	97	540	SPHWH2HDNC0VYHV3C1
		3500	1,850	99		SPHWH2HDNC0VYHU3C1
		4000	1,900	102		SPHWH2HDNC0VYHT3C1
	90	2700	1,742	93		SPHWH2HDNC07YHW3C1
		3000	1,784	96		SPHWH2HDNC07YHV3C1
		3500	1,805	97		SPHWH2HDNC07YHU3C1
	80	4000	1,848	99		SPHWH2HDNC07YHT3C1
		2700	1,996	107		SPHWH2HDNC05YHW3C1
		3000	2,124	114		SPHWH2HDNC05YHV3C1
		3500	2,226	119		SPHWH2HDNC05YHU3C1
		4000	2,313	124		SPHWH2HDNC05YHT3C1
		5000	2,421	130		SPHWH2HDNC05YHRTC1
		5700	2,421	130		SPHWH2HDNC05YHQTC1
LC040C	Vivid	3000	3,600	97	1,080	SPHWH2HDNE0VYHV3C1
		3500	3,700	99		SPHWH2HDNE0VYHU3C1
		4000	3,800	102		SPHWH2HDNE0VYHT3C1
	90	2700	3,483	93		SPHWH2HDNE07YHW3C1
		3000	3,568	96		SPHWH2HDNE07YHV3C1
		3500	3,610	97		SPHWH2HDNE07YHU3C1
	80	4000	3,695	99		SPHWH2HDNE07YHT3C1
		2700	3,993	107		SPHWH2HDNE05YHW3C1
		3000	4,248	114		SPHWH2HDNE05YHV3C1
		3500	4,452	119		SPHWH2HDNE05YHU3C1
		4000	4,626	124		SPHWH2HDNE05YHT3C1
		5000	4,842	130		SPHWH2HDNE05YHRTC1
		5700	4,842	130		SPHWH2HDNE05YHQTC1

※ Bin option is available, please refer to data sheet for more details.

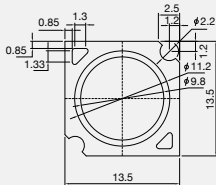
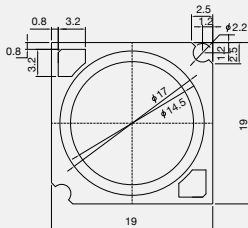
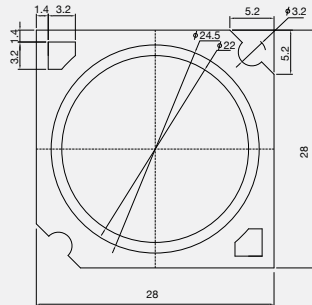
COB LEDs | D-series

D-Series

Providing strong portfolio for expanding various line up options

- Chip on Board (COB) solution makes it easy to design in
- Simple assembly reduces manufacturing & tooling cost
- Low thermal resistance
- Completed 6,000 hours of LM-80 testing



T _c =85°C		LC003D	LC006D	LC009D	LC013D	LC016D	LC019D	LC026D	LC040D	LC060D	LC080D
LES		9.8 mm				14.5 mm			22 mm		
V _f		34.6 V								52 V	
Watt.	Typ.	3.1 W (90 mA)	6.2 W (180 mA)	9.4 W (270 mA)	12.5 W (360 mA)	15.6 W (450 mA)	18.7 W (540 mA)	24.9 W (720 mA)	37.4 W (1,080 mA)	56.1 W (1,080 mA)	84.2 W (1,620 mA)
	Max.	8.6 W (230 mA)	17.2W (460 mA)	25.9 W (690 mA)	34.5 W (920 mA)	43.1 W (1,150 mA)	51.8 W (1,380 mA)	69 W (1,840 mA)	103.5 W (2,760 mA)	143.4 W (2,760 mA)	215 W (4,140 mA)
Dimension											
Size		13.5 x 13.5 mm				19 x 19 mm			28 x 28 mm		

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Product	CRI Min.	CCT (K)	Tc = 85°C Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	IF (mA)	Part Number
LC003D	90	2700	367	118	90	SPHWWAHDNA27YZW3D1
		3000	384	123		SPHWWAHDNA27YZV3D1
		3500	396	127		SPHWWAHDNA27YZU3D1
		4000	404	130		SPHWWAHDNA27YZT3D1
		2700	434	139		SPHWWAHDNA25YZW3D1
	80	3000	457	147		SPHWWAHDNA25YZV3D1
		3500	474	152		SPHWWAHDNA25YZU3D1
		4000	480	154		SPHWWAHDNA25YZT3D1
		5000	485	156		SPHWWAHDNA25YZR3D1
		5700	485	156		SPHWWAHDNA25YZQ3D1
		6500	480	154		SPHWWAHDNA25YZP3D1
		LC006D	90	2700		744
3000	780			125	SPHWWAHDNB27YZV3D1	
3500	768			123	SPHWWAHDNB27YZU3D1	
4000	784			126	SPHWWAHDNB27YZT3D1	
2700	874			140	SPHWWAHDNB25YZW3D1	
80	3000		919	148	SPHWWAHDNB25YZV3D1	
	3500		947	152	SPHWWAHDNB25YZU3D1	
	4000		969	156	SPHWWAHDNB25YZT3D1	
	5000		975	157	SPHWWAHDNB25YZR3D1	
	5700		975	157	SPHWWAHDNB25YZQ3D1	
	6500		964	155	SPHWWAHDNB25YZP3D1	
	LC009D		90	2700	1,090	117
3000		1,141		122	SPHWWAHDNC27YZV3D1	
3500		1,178		126	SPHWWAHDNC27YZU3D1	
4000		1,204		129	SPHWWAHDNC27YZT3D1	
2700		1,270		136	SPHWWAHDNC25YZW3D1	
80		3000	1,342	144	SPHWWAHDNC25YZV3D1	
		3500	1,381	148	SPHWWAHDNC25YZU3D1	
		4000	1,414	151	SPHWWAHDNC25YZT3D1	
		5000	1,425	153	SPHWWAHDNC25YZR3D1	
		5700	1,425	153	SPHWWAHDNC25YZQ3D1	
		6500	1,408	151	SPHWWAHDNC25YZP3D1	
		LC013D	90	2700	1,427	115
3000	1,494			120	SPHWWAHDND27YZV3D1	
3500	1,547			124	SPHWWAHDND27YZU3D1	
4000	1,580			127	SPHWWAHDND27YZT3D1	
2700	1,669			134	SPHWWAHDND25YZW3D1	
80	3000		1,757	141	SPHWWAHDND25YZV3D1	
	3500		1,812	145	SPHWWAHDND25YZU3D1	
	4000		1,844	148	SPHWWAHDND25YZT3D1	
	5000		1,861	149	SPHWWAHDND25YZR3D1	
	5700		1,861	149	SPHWWAHDND25YZQ3D1	
	6500		1,834	147	SPHWWAHDND25YZP3D1	
	LC016D		90	2700	1,860	119
3000		1,970		127	SPHWWAHDNE27YZV3D1	
3500		2,029		130	SPHWWAHDNE27YZU3D1	
4000		2,069		133	SPHWWAHDNE27YZT3D1	
2700		2,169		139	SPHWWAHDNE25YZW3D1	
80		3000	2,291	147	SPHWWAHDNE25YZV3D1	
		3500	2,376	153	SPHWWAHDNE25YZU3D1	
		4000	2,419	155	SPHWWAHDNE25YZT3D1	
		5000	2,440	157	SPHWWAHDNE25YZR3D1	
		5700	2,440	157	SPHWWAHDNE25YZQ3D1	
		6500	2,419	155	SPHWWAHDNE25YZP3D1	

※ Bin option is available, please refer to data sheet for more details.

SAMSUNG

COB LEDs

Product	CRI Min.	CCT (K)	Tc = 85°C		IF (mA)	Part Number			
			Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)					
LC019D	90	2700	2,210	118	540	SPHWAHDNF27YZW3D1			
		3000	2,317	124		SPHWAHDNF27YZV3D1			
		3500	2,402	129		SPHWAHDNF27YZU3D1			
		4000	2,454	131		SPHWAHDNF27YZT3D1			
	80	2700	2,581	138		SPHWAHDNF25YZW3D1			
		3000	2,722	146		SPHWAHDNF25YZV3D1			
		3500	2,805	150		SPHWAHDNF25YZU3D1			
		4000	2,863	153		SPHWAHDNF25YZT3D1			
		5000	2,894	155		SPHWAHDNF25YZR3D1			
		5700	2,894	155		SPHWAHDNF25YZQ3D1			
		6500	2,863	153		SPHWAHDNF25YZP3D1			
		LC026D	90	2700		2,898	116	720	SPHWAHDNG27YZW3D1
3000	3,048			122	SPHWAHDNG27YZV3D1				
3500	3,139			126	SPHWAHDNG27YZU3D1				
4000	3,204			129	SPHWAHDNG27YZT3D1				
80	2700		3,386	136	SPHWAHDNG25YZW3D1				
	3000		3,558	143	SPHWAHDNG25YZV3D1				
	3500		3,663	147	SPHWAHDNG25YZU3D1				
	4000		3,736	150	SPHWAHDNG25YZT3D1				
	5000		3,767	151	SPHWAHDNG25YZR3D1				
	5700		3,767	151	SPHWAHDNG25YZQ3D1				
	6500		3,736	150	SPHWAHDNG25YZP3D1				
	LC040D		90	2700	4,497	120	1,080		SPHWAHDNK27YZW3D1
3000		4,751		127	SPHWAHDNK27YZV3D1				
3500		4,872		130	SPHWAHDNK27YZU3D1				
4000		4,979		133	SPHWAHDNK27YZT3D1				
80		2700	5,246	140	SPHWAHDNK25YZW3D1				
		3000	5,520	148	SPHWAHDNK25YZV3D1				
		3500	5,689	152	SPHWAHDNK25YZU3D1				
		4000	5,812	156	SPHWAHDNK25YZT3D1				
		5000	5,839	156	SPHWAHDNK25YZR3D1				
		5700	5,868	157	SPHWAHDNK25YZQ3D1				
		6500	5,804	155	SPHWAHDNK25YZP3D1				
		LC060D	80	2700	7,277	130		1,080	SPHWAHDNL251ZW3P9
3000	7,667			137	SPHWAHDNL251ZV3Q3				
3500	7,904			141	SPHWAHDNL251ZU3Q5				
4000	8,075			144	SPHWAHDNL251ZT3Q6				
5000	8,113			144	SPHWAHDNL251ZR3Q7				
5700	8,151			145	SPHWAHDNL251ZQ3Q7				
70	6500		8,066	144	SPHWAHDNL271ZP3Q6				
	3000		8,284	148	SPHWAHDNL231ZV3Q8				
	4000		8,550	152	SPHWAHDNL231ZT3R1				
	5000		8,683	155	SPHWAHDNL231ZR3R2				
	LC080D		80	2700	10,612	126	1,620		SPHWAHDNM251ZW3T1
				3000	11,201	133			SPHWAHDNM251ZV3T6
3500		11,533		137	SPHWAHDNM251ZU3T9				
4000		11,780		140	SPHWAHDNM251ZT3U2				
70		5000	11,847	141	SPHWAHDNM251ZR3U2				
		5700	11,904	141	SPHWAHDNM251ZQ3V0				
		6500	11,723	139	SPHWAHDNM251ZP3V5				
		3000	12,084	143	SPHWAHDNM231ZV3U5				
70	4000	12,483	148	SPHWAHDNM231ZT3U9					
	5000	12,673	150	SPHWAHDNM231ZR3V0					

※ Bin option is available, please refer to data sheet for more details.

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Certification Support Program

To provide more valuable services for your successful business

Program Overview

Pre-Certification Test Support

Product structure, test and review by Samsung.
Samsung is an accredited partner of UL, VDE & KOLAS

Certification Accreditations Support

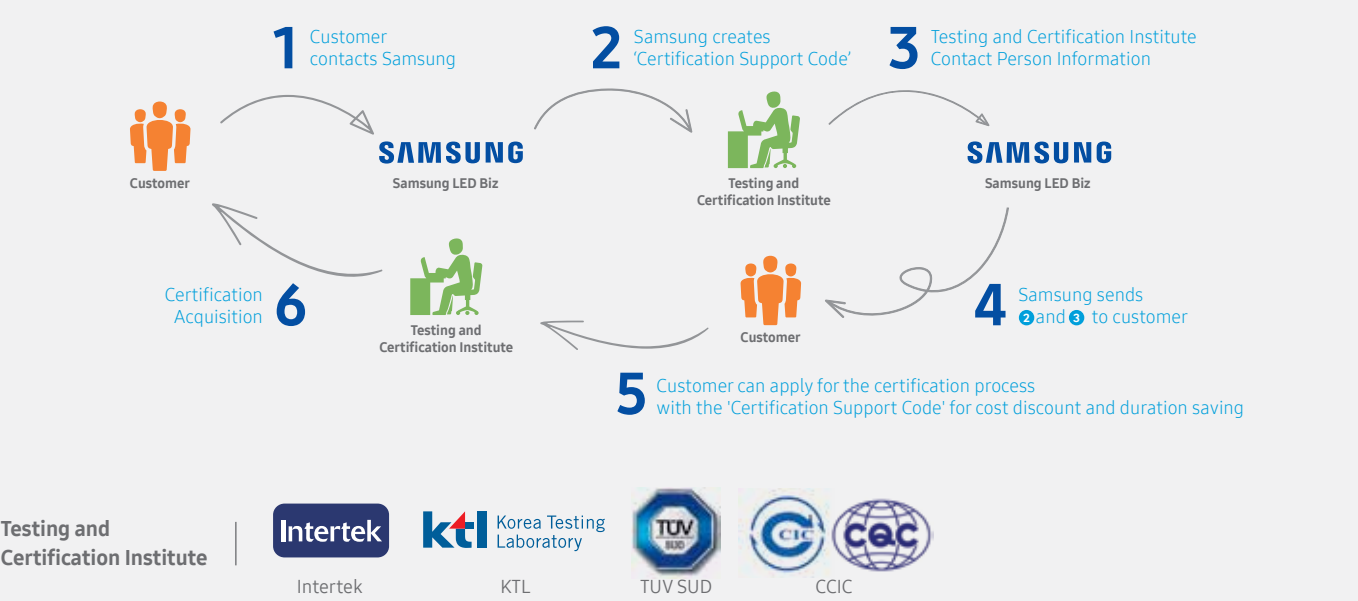
- Customer support for **Cost and Test Period Saving for the EU, US & ASIA certification**
- Global certification program roll out soon to be available

Customer Benefit

Certification		ETL, Energy Star, DLC ¹⁾ , FCC, LM 79		KS/High Efficiency	PSE	S-Mark	CE, ErP, ENEC, ENEC+, EU Eco-Label, GS mark		CCC/CQC	
Customer Location		US	Korea/China	-			EU/US/Asia	China	Korea	China
Cost Discount	Testing	-20%	-30%	-30%	-30%	-30%	-20%	-30%	-20%	-30%
	Handling	-	-	-	-	-	-	-	-	-
Test Period Savings		-30 ~ -50%	-30 ~ -50%	-20 ~ -30%			-20 ~ -30%	-20 ~ -30%	-20 ~ -30%	-20 ~ -30%
Company		Intertek		KTL (Korea Testing Laboratory)			TUV SUD		CCIC	
Branch		North America, China, Hong Kong, Korea		Korea, China			North America, Germany, China, Hong Kong, Singapore, Taiwan, Korea		Korea, China	

1) Energy Star, DLC's duration is not included for Lumen Maintenance test duration.
2) Discount rate is based on the standard price of Companies.

Process



Contact us : www.samsung.com/global/business/led/contact-us

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