BOURNS®

MOV-14DxxxKC Series

Metal Oxide Varistors



*RoHS COMPLIANT

Features

- High voltage and current rating
- Straight and kinked lead styles available
- Bidirectional
- Surge protection
- Fast response time
- RoHS compliant*
- Agency listing: cULus

Applications

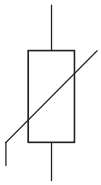
- Power supplies
- Power systems
- Line voltage
- Telecom systems
- White goods / appliances

Sustainability

- Eco-logistics-friendly packing
- Corrosion-resistant for longevity
- ISO 14001, low-impact energy
- Responsibly sourced and produced

Product Overview

The 14 mm radial leaded varistor MOV-14DxxxK Series protects against overvoltage transients such as lightning, power contact and power induction. The metal oxide varistors offer a choice of varistor voltages from 200 V to 1800 V and Vrms voltages from 130 V to 1100 V.



The devices have a high current handling, high energy absorption capability and fast response times to protect against transient faults up to rated limits.

Contact Information

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Industry Standard Compliance

Standard	UL 1449
File Number	E313168

Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Temperature	T_{OPR}	-40	25	+105	°C
Storage Temperature	T_{STG}	-40	25	+125	°C
Rated Wattage	P_W			0.60	Watt
Varistor Voltage Temperature Coefficient	V_{TC}	0		0.05	% / °C
Response Time	T_r		10	25	ns
Varistor Voltage Tolerance	V_{tol}	-10	0	10	%

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Bourns Part No.	Max. Continuous Voltage (V)		Voltage @ 1 mA DC (V)			Voltage @ Class Current (8/20 µs)		Max. Peak Current (8/20 µs)	Max. Energy (J)	Typ. Cap. (pF)
	r.m.s.	d.c.	Min.	Nom.	Max.	Class Current (A)	Max. Clamping Voltage (V)	One Time	8/20 µs	1 kHz
MOV-14D201KC	130	170	185	200	225	50	340	4500	57.0	1200
MOV-14D221KC	140	180	198	220	242	50	360	4500	60.0	1080
MOV-14D241KC	150	200	216	240	264	50	395	4500	63.0	996
MOV-14D271KC	175	225	243	270	297	50	455	4500	70.0	888
MOV-14D301KC	190	250	270	300	330	50	500	4500	77.0	804
MOV-14D331KC	210	275	297	330	363	50	550	4500	85.0	732
MOV-14D361KC	230	300	324	360	396	50	595	4500	93.0	672
MOV-14D391KC	250	320	351	390	429	50	650	4500	100.0	612
MOV-14D431KC	275	350	387	430	473	50	710	4500	115.0	552
MOV-14D471KC	300	385	423	470	517	50	775	4500	125.0	516
MOV-14D511KC	320	415	459	510	561	50	845	4500	125.0	468
MOV-14D561KC	350	460	504	560	616	50	925	4500	125.0	432
MOV-14D621KC	385	505	558	620	682	50	1025	4500	125.0	384
MOV-14D681KC	420	560	612	680	748	50	1120	4500	130.0	360
MOV-14D751KC	460	615	675	750	825	50	1240	4500	143.0	324
MOV-14D781KC	485	640	702	780	858	50	1290	4500	148.0	312
MOV-14D821KC	510	670	738	820	902	50	1355	4500	157.0	300
MOV-14D911KC	550	745	819	910	1001	50	1500	4500	175.0	288
MOV-14D102KC	625	825	900	1000	1100	50	1650	4500	190.0	264
MOV-14D112KC	680	895	990	1100	1210	50	1815	4500	213.0	240
MOV-14D152KC	940	1200	1350	1500	1650	50	2475	4500	329.0	180
MOV-14D182KC	1100	1465	1620	1800	1980	50	2970	4500	335.0	156

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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MOV-14DxxxKC Series

Metal Oxide Varistors

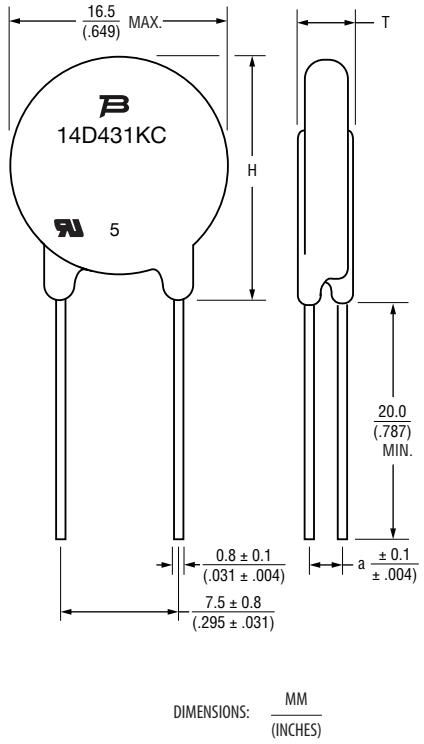


*RoHS COMPLIANT

Product Dimensions

This is an RoHS compliant molded radial package with 100 % Sn plating on the terminations.

Straight Leads



(Kinked Product Dimensions continue on pages 3 and 4.)

Bourns Part Number	Dim T (Max.)	Dim. H (Max.)	Dim a (Typ.)
MOV-14D201KC	3.8 (.150)	20.0 (.787)	1.6 (.063)
MOV-14D221KC	3.9 (.154)		1.6 (.063)
MOV-14D241KC	4.0 (.157)		1.7 (.067)
MOV-14D271KC	4.2 (.165)		1.8 (.071)
MOV-14D301KC	4.4 (.173)		1.9 (.075)
MOV-14D331KC	4.6 (.181)		2.6 (.102)
MOV-14D361KC	4.8 (.189)		2.6 (.102)
MOV-14D391KC	5.0 (.197)		2.9 (.114)
MOV-14D431KC	5.2 (.205)		3.1 (.122)
MOV-14D471KC	5.4 (.213)		3.2 (.126)
MOV-14D511KC	5.5 (.217)		3.5 (.138)
MOV-14D561KC	6.0 (.236)	22.0 (.866)	3.8 (.150)
MOV-14D621KC	6.4 (.252)		4.0 (.157)
MOV-14D681KC	6.5 (.256)		4.2 (.165)
MOV-14D751KC	6.7 (.264)		4.2 (.165)
MOV-14D781KC	6.9 (.272)		4.4 (.173)
MOV-14D821KC	7.3 (.287)		4.4 (.173)
MOV-14D911KC*	7.3 (.287)		4.4 (.173)
MOV-14D102KC*	8.2 (.323)		4.6 (.181)
MOV-14D112KC*	8.7 (.343)		5.0 (.197)
MOV-14D152KC**	N/A		
MOV-14D182KC**	N/A		

* Not available in Tape & Reel packaging.

**Not available in Tape & Reel packaging.
Not available in Straight Lead configuration; see Kinked Leads (In-line) configuration.

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MOV-14DxxxKC Series

Metal Oxide Varistors

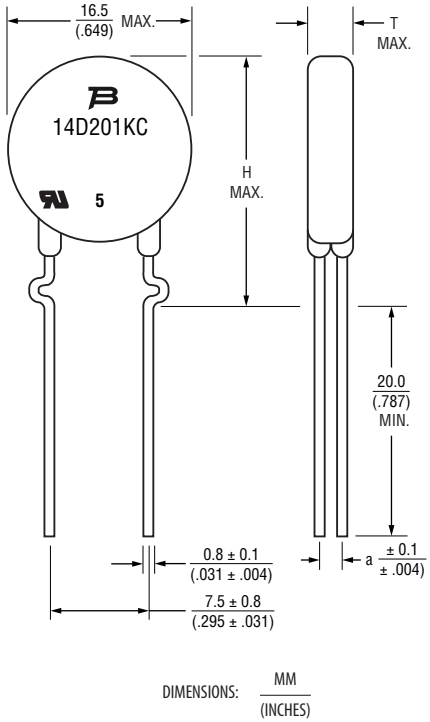


*RoHS COMPLIANT

Product Dimensions (Continued)

This is an RoHS compliant molded radial package with 100 % Sn plating on the terminations.

Kinked Leads (Outward)



(Kinked Lead Product Dimensions continue on page 4.)

Bourns Part Number	Dim T (Max.)	Dim. H (Max.)	Dim a (Typ.)
MOV-14D201KKC	3.8 (.150)	21.0 (.827)	2.0 (.079)
MOV-14D221KKC	3.9 (.154)		2.1 (.083)
MOV-14D241KKC	4.0 (.157)		2.2 (.087)
MOV-14D271KKC	4.2 (.165)		2.3 (.091)
MOV-14D301KKC	4.4 (.173)		2.5 (.098)
MOV-14D331KKC	4.6 (.181)		2.6 (.102)
MOV-14D361KKC	4.8 (.189)		2.6 (.102)
MOV-14D391KKC	5.0 (.197)		2.9 (.114)
MOV-14D431KKC	5.2 (.205)		3.1 (.122)
MOV-14D471KKC	5.4 (.213)		3.2 (.126)
MOV-14D511KKC	5.5 (.217)		3.5 (.138)
MOV-14D561KKC	6.0 (.236)	23.0 (.905)	3.8 (.150)
MOV-14D621KKC	6.4 (.252)		4.0 (.157)
MOV-14D681KKC	6.5 (.256)		4.2 (.165)
MOV-14D751KKC	6.7 (.264)		4.2 (.165)
MOV-14D781KKC	6.9 (.272)		4.4 (.173)
MOV-14D821KKC	N/A See Kinked Leads (In-line) Configuration		
MOV-14D911KKC*			
MOV-14D102KKC*			
MOV-14D112KKC*			
MOV-14D152KKC*			
MOV-14D182KKC*			

* Not available in Tape & Reel packaging.

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MOV-14DxxxKC Series

Metal Oxide Varistors

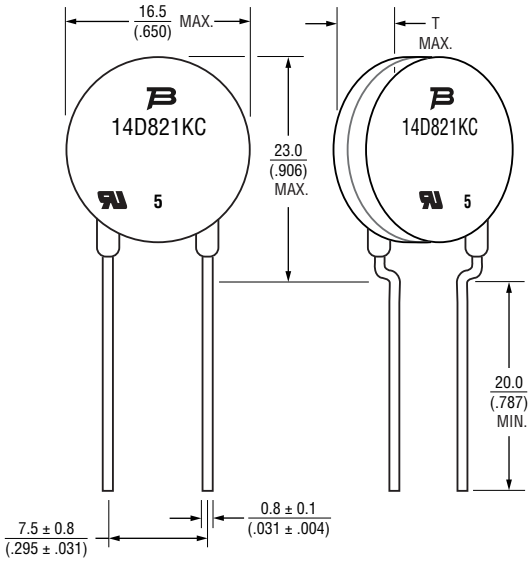


*RoHS COMPLIANT

Product Dimensions (Continued)

This is an RoHS compliant molded radial package with 100 % Sn plating on the terminations.

Kinked Leads (In-line)



DIMENSIONS: MM / (INCHES)

Bourns Part Number	Dim T (Max.)
MOV-14D201KKC	N/A See Kinked Leads (Outward) Configuration
MOV-14D221KKC	
MOV-14D241KKC	
MOV-14D271KKC	
MOV-14D301KKC	
MOV-14D331KKC	
MOV-14D361KKC	
MOV-14D391KKC	
MOV-14D431KKC	
MOV-14D471KKC	
MOV-14D511KKC	
MOV-14D561KKC	
MOV-14D621KKC	
MOV-14D681KKC	
MOV-14D751KKC	
MOV-14D781KKC	
MOV-14D821KKC	7.3 (.287)
MOV-14D911KKC*	7.7 (.303)
MOV-14D102KKC*	8.2 (.323)
MOV-14D112KKC*	8.7 (.343)
MOV-14D152KKC*	11.0 (.433)
MOV-14D182KKC*	12.6 (.496)

* Not available in Tape & Reel packaging.

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MOV-14DxxxKC Series

Metal Oxide Varistors



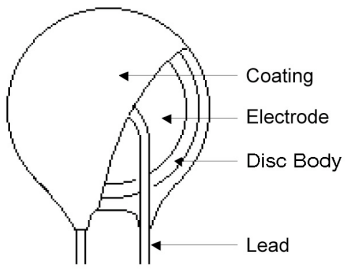
*RoHS COMPLIANT

Typical Part Marking

Bourns Part Number	Bourns Part Marking
MOV-14D201KC	14D201KC
MOV-14D221KC	14D221KC
MOV-14D241KC	14D241KC
MOV-14D271KC	14D271KC
MOV-14D301KC	14D301KC
MOV-14D331KC	14D331KC
MOV-14D361KC	14D361KC
MOV-14D391KC	14D391KC
MOV-14D431KC	14D431KC
MOV-14D471KC	14D471KC
MOV-14D511KC	14D511KC
MOV-14D561KC	14D561KC
MOV-14D621KC	14D621KC
MOV-14D681KC	14D681KC
MOV-14D751KC	14D751KC
MOV-14D781KC	14D781KC
MOV-14D821KC	14D821KC
MOV-14D911KC	14D911KC
MOV-14D102KC	14D102KC
MOV-14D112KC	14D112KC
MOV-14D152KC	14D152KC
MOV-14D182KC	14D182KC

NOTE: The "5" marking on MOV products is for traceability of production assembly for quality assurance compliance.

Internal Construction



How to Order

MOV - 14D nn (n) K __ C (TR)

Model Designator
MOV = Metal Oxide Varistor

Disc Diameter
14D = 14 mm

Nominal Varistor Voltage
See Electrical Characteristics Table

Multiplier of Voltage Digits
0 = No multiplier
1 = nn * 10^1
2 = nn * 10^2

Varistor Voltage Tolerance
K = 10 %

Lead Style
Blank = Straight Leads
K = Kinked Leads

Electrode
C = Copper-based Electrode

Packaging
Blank = Bulk
TR = Tape & Reel

Examples:

MOV-14D201KC	*200 V, Straight Leads, Bulk Pack*
MOV-14D331KKCTR	*330 V, Kinked (Outward) Leads, Tape & Reel*
MOV-14D152KKC	*1500 V, Kinked (In-line) Leads, Bulk Pack*

** *Models MOV-14D911KC, 102KC, 112KC, 152KC and 182KC are not available in Tape & Reel packaging.*

Environmental Specifications

Moisture Sensitivity Level 1
ESD Classification (HBM) ..... N/A

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MOV-14DxxxKC Series

Metal Oxide Varistors

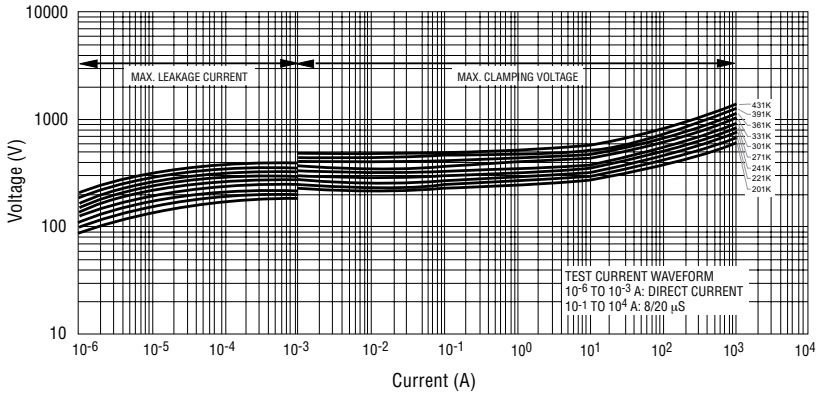


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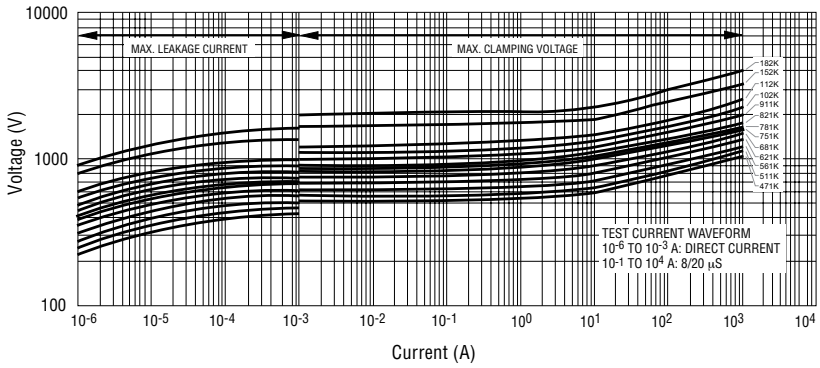
Performance Graphs

V-I Characteristics

MOV-14D201KC to MOV-14D431KC

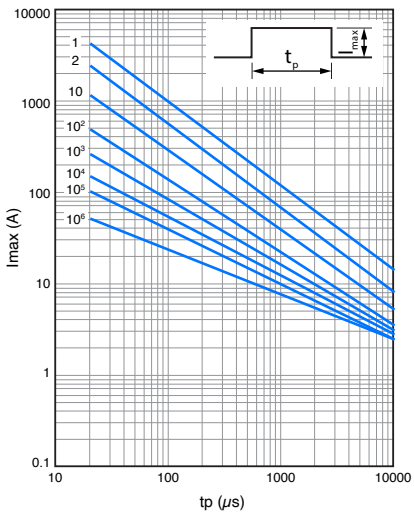


MOV-14D471KC to MOV-14D182KC

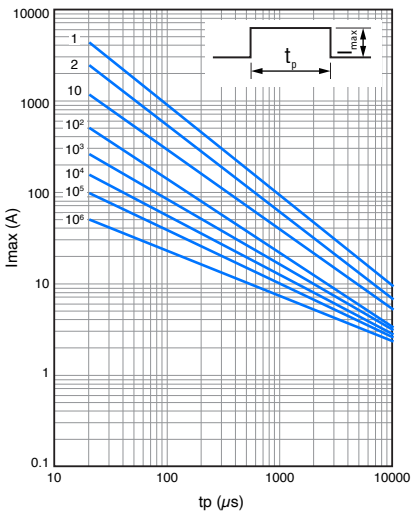


Pulse Rating Curves

14D201KC~751KC



14D781KC~182KC



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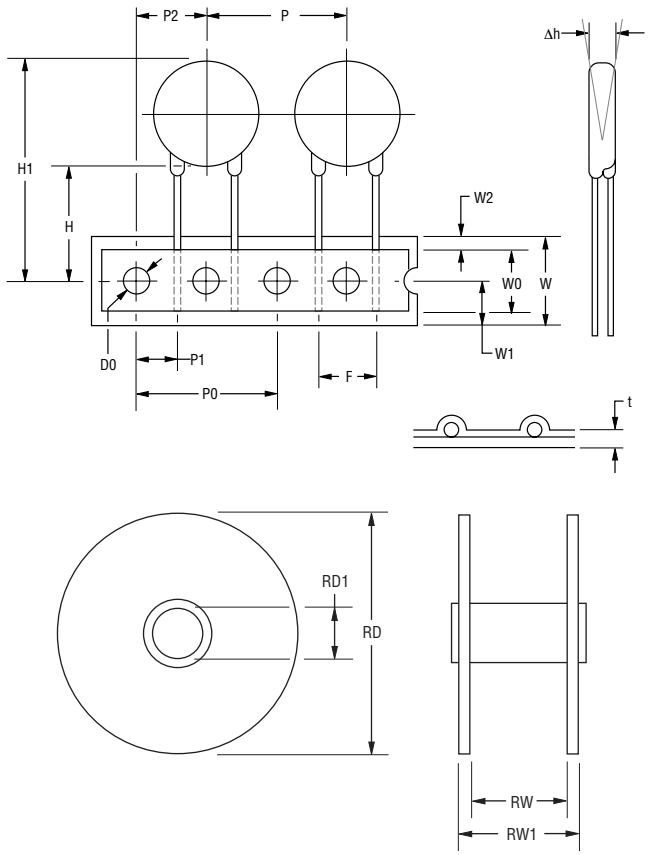
Metal Oxide Varistors



*RoHS COMPLIANT

Packaging Specifications

TAPE & REEL - Straight Leads



NOTE: Models MOV-14D911KC, 102KC, 112KC, 152KC and 182KC are not available in Tape & Reel packaging.

Item	Symbol	14 mm Disc
Reel Outside Diameter	RD	355 (13.98)
Reel Inner Diameter	RD1	30 (1.181)
Tape Width	RW	55 (2.16)
Reel Width	RW1	63 (2.48) max.
Pitch of Component	P	25.4 ± 1.0 (1.00 ± 0.04)
Feed Hole Pitch	P0	12.7 ± 0.2 (0.50 ± 0.008)
Feed Hole Center to Pitch	P1	8.95 ± 0.7 (0.352 ± 0.03)
Feed Hole Center to Component Center	P2	12.7 ± 0.7 (0.50 ± 0.03)
Lead to Lead Distance	F	7.50 ± 0.8 (0.30 ± 0.03)
Component Alignment	Dh	4.0 (0.16) max.
Tape Width	W	18.0 ± 0.5 (0.71 ± 0.02)
Hole Down Tape Width	W0	12.0 ± 0.8 (0.47 ± 0.03)
Hole Position	W1	9.0 ± 0.5 (0.35 ± 0.02)
Hole Down Tape Position	W2	3.0 (0.12) max.
Height From Center to Component Base	H	19.0 ± 1.0 (0.75 ± 0.04)
Component Height	H1	40.0 (1.57) max.
Feed Hole Diameter	D0	4.0 ± 0.2 (0.16 ± 0.08)
Total Tape Thickness	t	0.6 ± 0.3 (0.02 ± 0.01)
Quantity per Reel (14D201KC – 14D331KC)	-	500
Quantity per Reel (14D361KC – 14D821KC)	-	400

DIMENSIONS: MM (INCHES)

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MOV-14DxxxKC Series

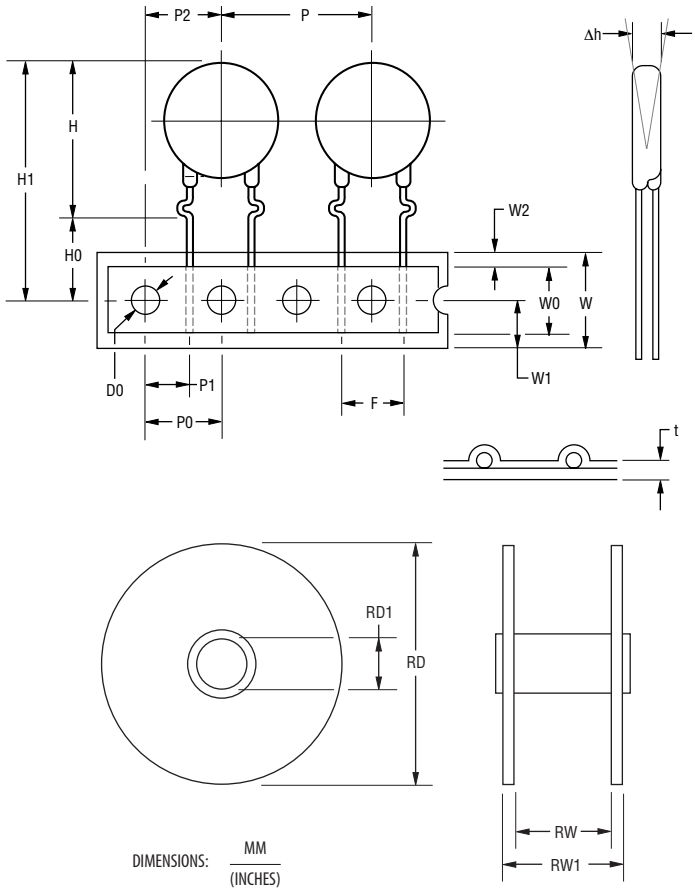
Metal Oxide Varistors



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Packaging Specifications (Continued)

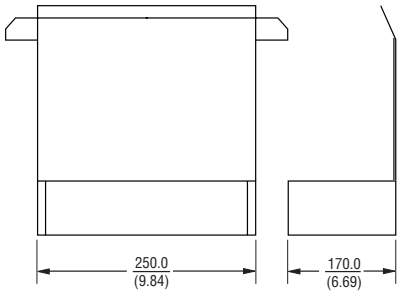
TAPE & REEL - Kinked Leads



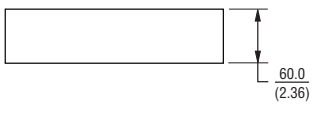
NOTE: Models MOV-14D911KKC, 102KKC, 112KKCC, 152KKC and 182KKC are not available in Tape & Reel packaging.

Item	Symbol	14 mm Disc
Reel Outside Diameter	RD	355 (13.98)
Reel Inner Diameter	RD1	30 (1.181)
Tape Width	RW	55 (2.16)
Reel Width	RW1	63 (2.48) max.
Pitch of Component	P	25.4 ± 1.0 (1.00 ± 0.04)
Feed Hole Pitch	P0	12.7 ± 0.2 (0.50 ± 0.008)
Feed Hole Center to Pitch	P1	8.95 ± 0.7 (0.352 ± 0.03)
Feed Hole Center to Component Center	P2	12.7 ± 0.7 (0.50 ± 0.03)
Lead to Lead Distance	F	7.50 ± 0.8 (0.30 ± 0.03)
Component Alignment	Dh	4.0 (0.16) max.
Tape Width	W	18.0 ± 0.5 (0.71 ± 0.02)
Hole Down Tape Width	W0	12.0 ± 0.8 (0.47 ± 0.03)
Hole Position	W1	9.0 ± 0.5 (0.35 ± 0.02)
Hole Down Tape Position	W2	3.0 (0.12) max.
Height From Component Top to Kinked Base (MOV-14D201KKC~511KKC)	H	21.0 (0.83) max.
Height From Component Top to Kinked Base (MOV-14D561KKC~182KKC)	H	23.0 (0.91) max.
Seating Plane Height	H0	16.0 ± 0.5 (0.63 ± 0.02)
Component Height	H1	40.0 (1.57) max.
Feed Hole Diameter	D0	4.0 ± 0.2 (0.16 ± 0.08)
Total Tape Thickness	t	0.6 ± 0.3 (0.02 ± 0.01)
Quantity per Reel (14D201KKC – 14D331KKC)	-	500
Quantity per Reel (14D361KKC – 14D821KKC)	-	400

BULK



QUANTITY:
MOV-14D201KC - MOV14D331KC = 800 PCS. PER BOX
MOV-14D361KC - MOV14D621KC = 600 PCS. PER BOX
MOV-14D681KC - MOV14D112KC = 400 PCS. PER BOX
MOV-14D152KC - MOV14D182KC = 300 PCS. PER BOX



REV. 08/26

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