

## Radial Lead Transient Voltage Suppressors (TVS)

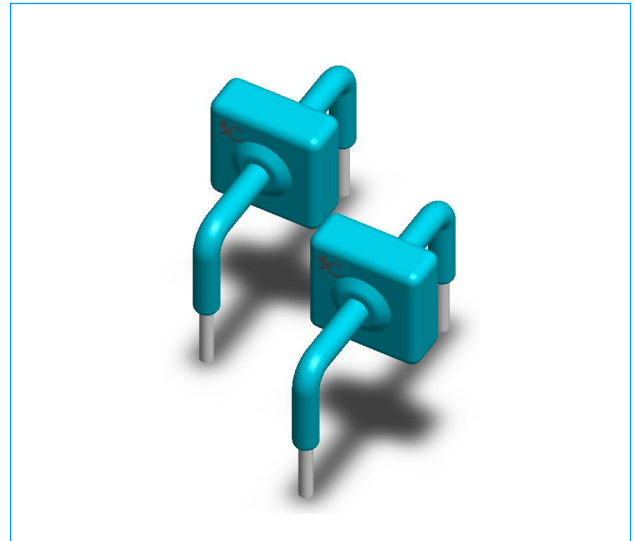
### KD Series

#### Description

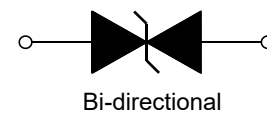
The KD Series of high current transient suppressors have been specially designed for use in A.C. line protection and any demanding applications (AC or DC). Any voltage rise due to increased current conduction is contained to a minimum, providing the best possible protection level. They can also be connected in series and/or parallel to create very high capacity protection solutions.

#### Features

- ◆ Axial lead terminals
- ◆ High current transient suppressor
- ◆ Excellent Clamping Capability
- ◆ Glass Passivated Junction
- ◆ Bi-directional
- ◆ Low Slope Resistance
- ◆ Repetition Rate (duty cycle):0.01%
- ◆ Hazardous Substances Free
- ◆ RoHS Compliant
- ◆ High Temperature soldering: 260°C/10 seconds at terminals
- ◆ Epoxy Encapsulated
- ◆ Silver plated leads
- ◆ Solderable per MIL-STD-202 Method 208



#### Functional Diagram



#### Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating junction	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C
Current Rating <sup>1</sup>	I <sub>PP</sub>	15	KA

#### Notes:

1. Rated IPP measured with 8 × 20μs pulse.

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Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Part Number	Reverse Stand-Off Voltage		Breakdown Voltage	Test Current	Current Rating	Maximum Clamping Voltage	Reverse Leakage
	VAC(V)	VDC(V)	V <sub>BR</sub> (V) MIN.@I <sub>T</sub>	I <sub>T</sub> (mA)	I <sub>PP</sub> 8/20μs (KA)	V <sub>c</sub> (V) @I <sub>PP</sub>	I <sub>R</sub> (μA) @VDC
KD-012	8.5	12.8	14	10	15	28	20
KD-015	11	15	17	10	15	30	20
KD-020	14	20	22	10	15	40	20
KD-025	17	25	28	10	15	50	20
KD-030	21	30	33	10	15	60	20
KD-042	30	42	47	10	15	77	20
KD-058	40	58	64	10	15	110	20
KD-066	45	66	70	10	15	125	20
KD-076	54	76	85	10	15	145	20

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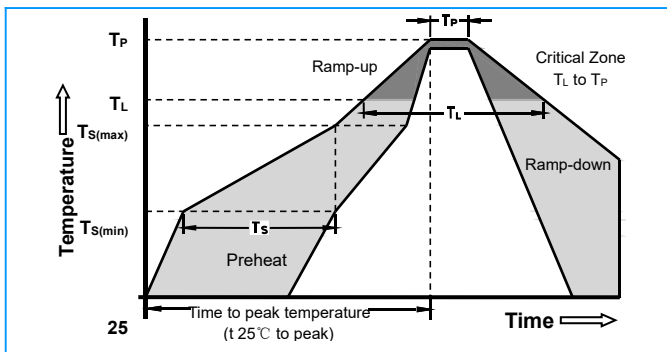
## KD Series

### Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted) (Continued)

#### Physical Specifications

<b>Weight</b>	Contact manufacturer
<b>Case</b>	Epoxy encapsulated
<b>Terminal</b>	Silver plated leads, solderable per MIL-STD-750, Method 2026

#### Soldering Parameters



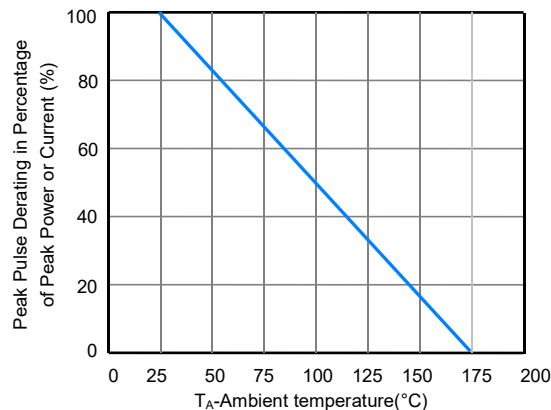
Reflow Condition		Lead-free assembly
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	150°C
	-Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (min to max) ( $T_s$ )	60 -180 Seconds
Average ramp up rate ( Liquidus Temp $T_L$ ) to peak		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Time (min to max) ( $T_L$ )	60 -150 Seconds
Peak Temperature ( $T_P$ )		260 +0/-5°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 -40 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_P$ )		8 minutes Max
Do not exceed		280°C

#### Flow/Wave Soldering (Solder Dipping)

Peak Temperature :	265°C
Dipping Time :	10 seconds
Soldering :	1 time

### Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

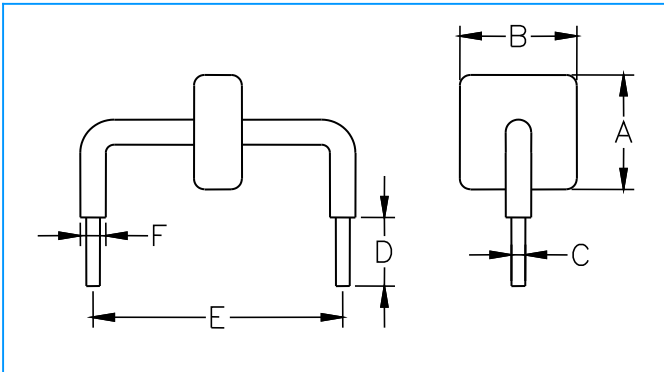
#### Pulse Derating Curve



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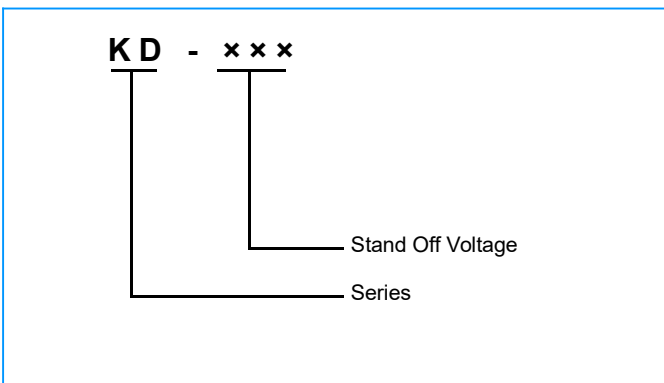
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### Dimensions



Dimensions	Inches	Millimeters
<b>A</b>	max 0.571	max 14.5
<b>B</b>	Max0.500	max 12.7
<b>C</b>	$\Phi 0.051 \pm 0.004$	$\Phi 1.30 \pm 0.1$
<b>D</b>	$0.236 \pm 0.040$	$6.0 \pm 1.0$
<b>E</b>	$0.950 \pm 0.028$	$24.15 \pm 0.7$
<b>F</b>	max 0.10	max 2.5

### Part Numbering



### Part Marking

