

# Radial Lead Transient Voltage Suppressors (TVS)

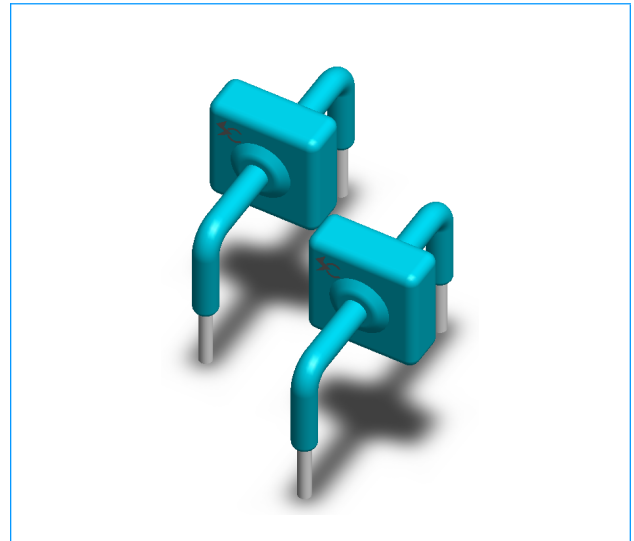
## KA Series

### Description

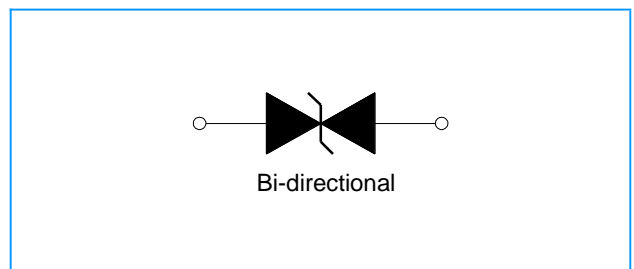
The KA Series of high current transient suppressors have been specially designed for use in A.C. line protection and any demanding applications (AC or DC). Any voltage rise due to increased current conduction is contained to a minimum, providing the best possible protection level. They can also be connected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

### Features

- u Axial lead terminals
- u High current transient suppressor
- u Excellent Clamping Capability
- u Glass Passivated Junction
- u Bi-directional
- u Low Slope Resistance
- u Repetition Rate (duty cycle):0.01%
- u Hazardous Substances Free
- u RoHS Compliant
- u High Temperature soldering: 260°C/10 seconds at terminals
- u Epoxy Encapsulated
- u Silver plated leads
- u 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>	3	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
KA-012	8.5	12.8	14	10	3	28	20
KA-015	11	15	17	10	3	30	20
KA-020	14	20	22	10	3	40	20
KA-025	17	25	28	10	3	50	20
KA-030	21	30	33	10	3	60	20
KA-042	30	42	47	10	3	77	20
KA-058	40	58	64	10	3	110	20
KA-066	45	66	70	10	3	125	20
KA-076	54	76	85	10	3	140	20
KA-100	72	100	110	10	3	165	20
KA-133	100	133	147	10	3	220	20
KA-170	130	170	180	10	3	260	20
KA-190	145	190	200	10	3	290	20
KA-200	150	200	222	10	3	330	20
KA-240	180	240	250	10	3	340	20
KA-380	275	380	401	10	3	520	20
KA-430	310	430	440	10	3	325	20

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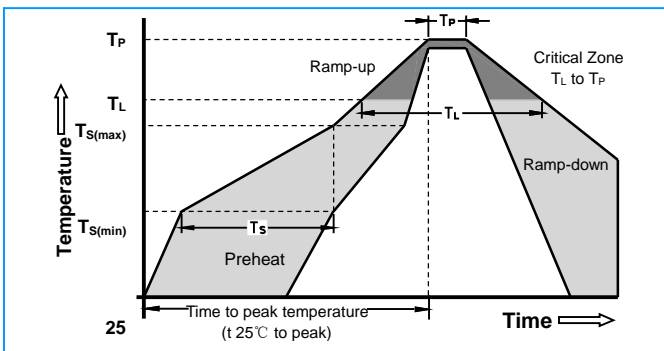
## KA Series

### 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



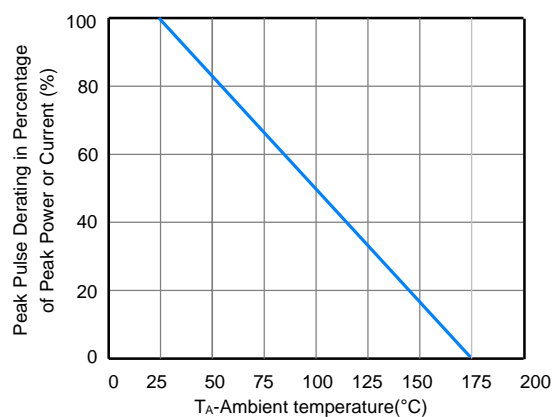
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (min to max) ( $T_s$ )	60 -180 Seconds
Average ramp up rate ( Liquidus Temp $T_L$ ) to peak		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	- 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)

<b>Peak Temperature :</b>	265°C
<b>Dipping Time :</b>	10 seconds
<b>Soldering :</b>	1 time

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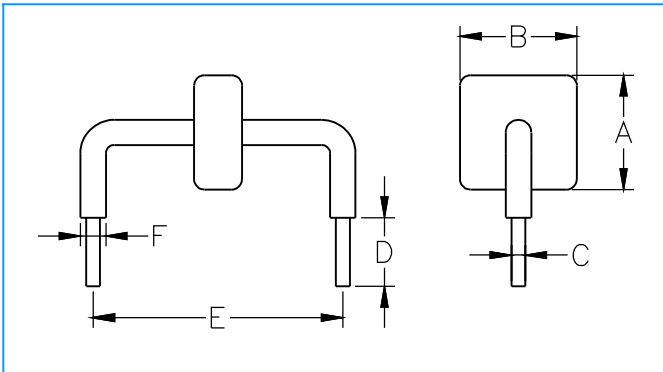
#### Pulse Derating Curve



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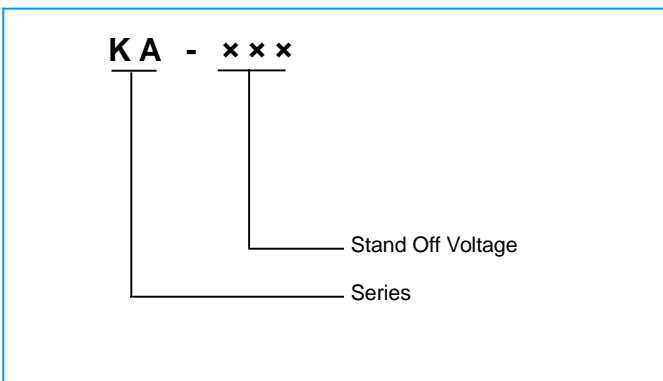
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### Dimensions



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

