

Axial Lead Transient Voltage Suppressors (TVS)

8KP Series
18 to 51 V
8000W
R6/P600

Description

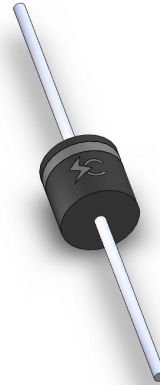
The 8KP series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

- ◆ Glass passivated chip junction in P600 Package
- ◆ Low leakage
- ◆ Uni and Bidirectional unit
- ◆ Excellent clamping capability
- ◆ 8000W Peak power capability at 10 × 1000μs waveform Repetition rate (duty cycle):0.01%
- ◆ Fast response time
- ◆ RoHS compliant

Applications

TVS devices are ideal for the protection of I/O interfaces, V_{CC} bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

Uni-directional

Bi-directional


Functional Diagram


Bi-directional

Uni-directional

Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

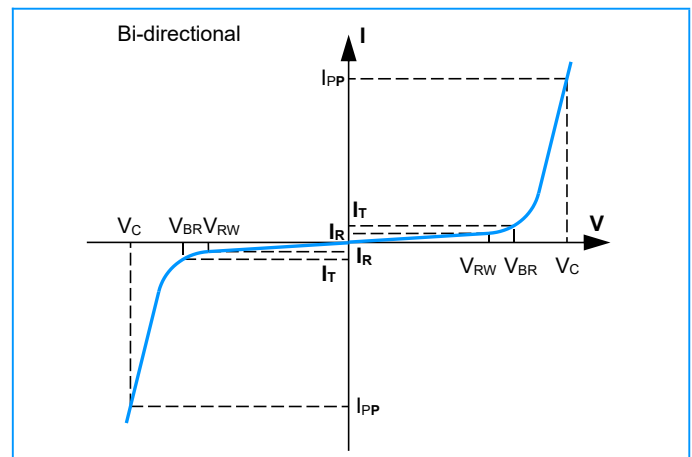
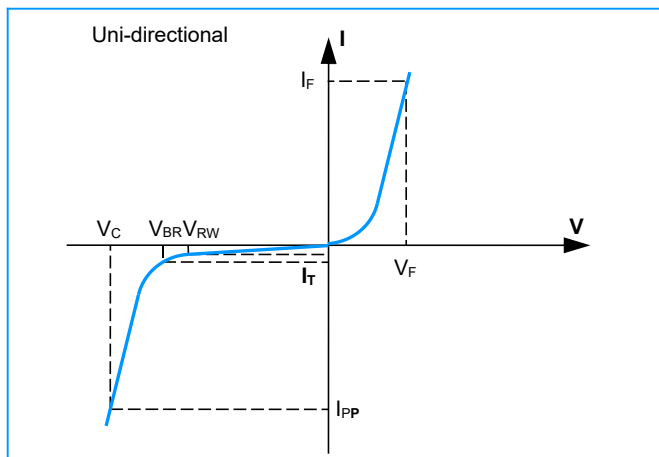
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000μs waveform (Fig.1)(Note 1), (Note 2)	P_{PPM}	8000	Watts
Peak Pulse Current with a 10/1000μs waveform.(Note1, Fig.3)	I_{PP}	See Next Table	Amps
Power Dissipation on Infinite Heat Sink at $T_L=75^{\circ}\text{C}$	$P_{M(AV)}$	8.0	Watt
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I_{FSM}	500	Amps
Operating junction and Storage Temperature Range.	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

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Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part Number		Reverse Stand-Off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V) @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C (V) @ I_{PP}	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R (μA) @ V_{RWM}
Uni	Bi		MIN	MAX				
8KP18A	8KP18CA	18	20.0	22.1	5	29.2	273.9	5
8KP20A	8KP20CA	20	22.2	24.5	5	32.4	246.9	5
8KP22A	8KP22CA	22	24.4	26.9	5	35.5	225	5
8KP24A	8KP24CA	24	26.7	29.5	5	38.9	206	5
8KP30A	8KP30CA	30	33.3	36.8	5	48.4	165	5
8KP33A	8KP33CA	33	36.7	40.6	5	53.3	150	5
8KP36A	8KP36CA	36	40.0	44.2	5	58.1	148	5
8KP40A	8KP40CA	40	44.4	49.1	5	64.5	124	5
8KP43A	8KP43CA	43	47.8	52.8	5	69.4	115	5
8KP45A	8KP45CA	45	50.0	55.3	5	72.7	110	5
8KP48A	8KP48CA	48	53.3	58.9	5	77.4	103.4	5
8KP51A	8KP51CA	51	56.7	62.7	5	82.4	97.1	5

I-V Curve Characteristics



Physical Specifications

Weight	0.07 ounce, 2.1gram
Case	JEDEC R-6/P600 Molded Plastic over glass passivated junction
Polarity	Color band denotes cathode except Bipolar
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102D

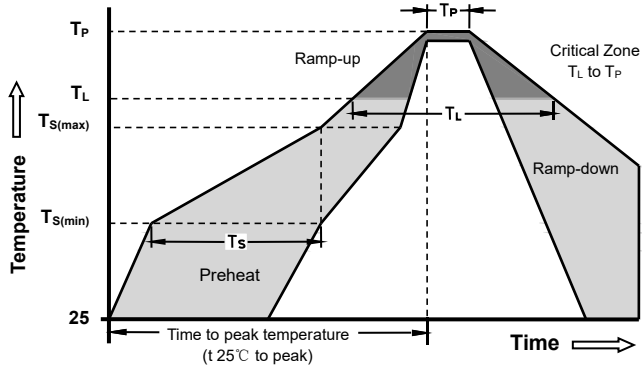
Environmental Specifications

Temperature Cycle	JESD22-A104
Pressure Cooker	JESD22-A102
High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Thermal Shock	JESD22-A106

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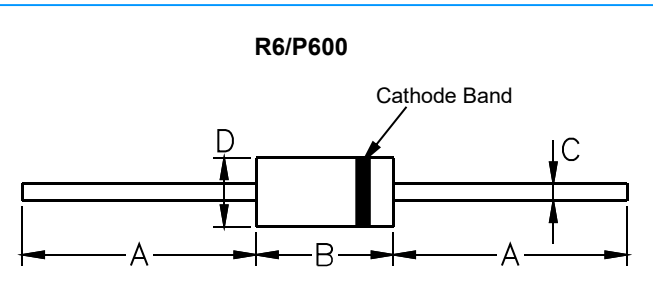
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Soldering Parameters



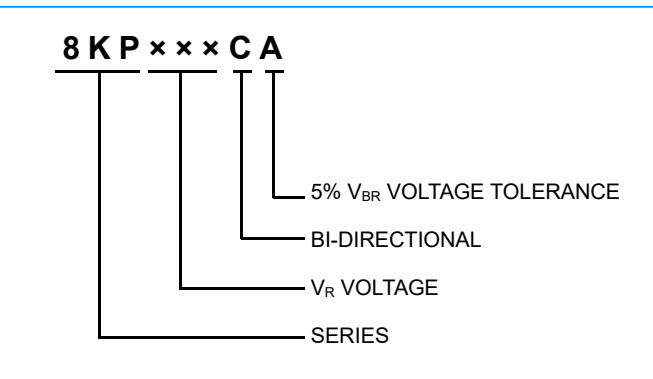
Reflow Condition		Lead-free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (T_s)	60 -180 Seconds
Average ramp up rate (Liquidus Temp T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature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

Dimensions

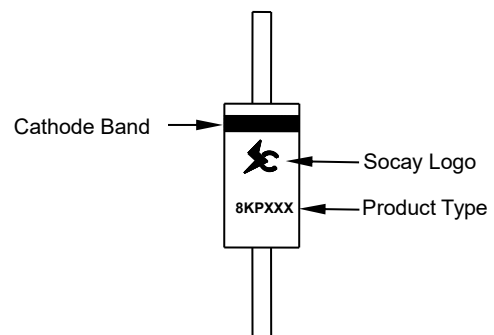


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	1.000	-	25.40	-
B	0.340	0.360	8.64	9.14
C	0.048	0.052	1.22	1.32
D	0.340	0.360	8.64	9.14

Part Numbering



Part Marking



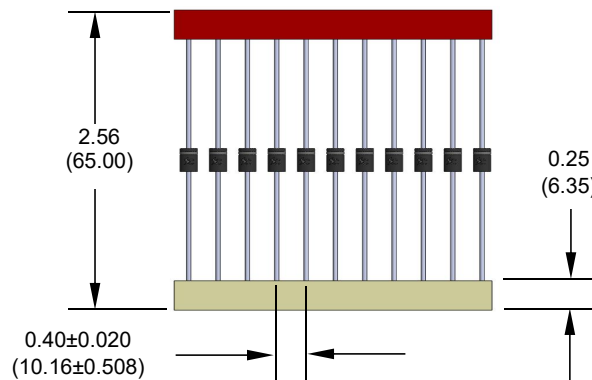
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Packaging

Part Number	Component Package	Quantity	Packaging Option
8KP Series	R6/P600	250 PCS	Box

Packaging Dimensions Unit: Inches (Millimeters)



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