



Socay Factory Supplier 8000W TVS Diode 8KP51A Axial Lead Transient Voltage Suppressor

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL, REACH, RoHS, ISO
- Model Number: 8KP51A
- Minimum Order Quantity: 250PCS
- Price: Negotiable
- Delivery Time: 5-8 work days



Product Specification

- Product Name: TVS Diodes
- Package Type: R6/P600
- Vrwm: 51.0V
- Vbr@It (Min.): 56.7V
- Vbr@It (Max.): 62.7V
- It: 5mA
- Vc@Ipp: 82.4V
- Ipp: 97.1A
- Ir@Vrwm: 5μA

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Product Description

Socay Factory Supplier 8000W TVS Diode 8KP51A Axial Lead Transient Voltage Suppressor

DATASHEET: [8KP Series_v2309.1.pdf](#)

8KP51A Brief Introduction:

The 8KP series is designed for the protection of sensitive electronic components from transient voltages due to lightning strikes and other transient voltage events.

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
8KP58A	8KP58CA	58	64.4	71.2	5	93.6	86.5	5
8KP60A	8KP60CA	60	66.7	73.7	5	96.8	83.7	5
8KP64A	8KP64CA	64	71.1	78.6	5	103.0	78.6	5
8KP70A	8KP70CA	70	77.8	86.0	5	113.0	71.7	5
8KP75A	8KP75CA	75	83.3	92.1	5	121.0	66.9	5
8KP78A	8KP78CA	78	86.7	95.8	5	126.0	64.3	5

8KP51A Characteristics:

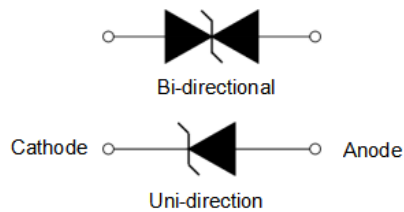
- u Low leakage
- u Uni and Bidirectional unit
- u Glass passivated junction in P600 package
- u Outstanding clamping capability
- u 8000 W Peak power with 10 × 1000 μs waveform Repetition rate (duty cycle) 0.01% Duty cycle ratio
- u Fast response time to requests
- u RoHS compliant

8KP51A Applications:

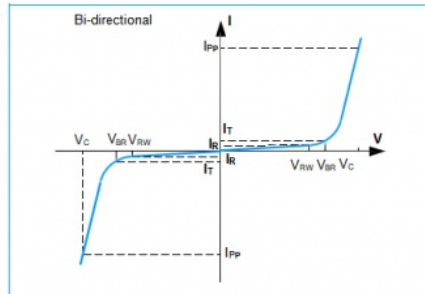
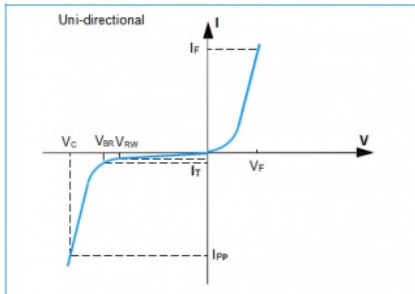
TVS devices are ideal for protecting I/O interfaces, VCC buses and other sensitive electronic circuits used in telecom, PC, industrial and consumer electronics applications.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000 μs waveform (Fig.1)(Note 1), (Note 2)	P_{PPM}	8000	Watts
Peak Pulse Current with a 10/1000 μs waveform.(Note1, Fig.3)	I_{PP}	See Next Table	Amps
Power Dissipation on Infinite Heat Sink at $T_L=75^\circ C$	$P_{M(AV)}$	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	$^\circ C$

Functional Diagram



I-V Curve Characteristics



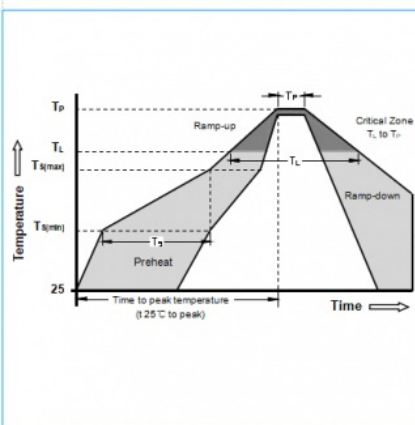
Physical Specifications

Weight	0.007 ounce, 0.21 gram
Case	JEDEC DO-214AB Molded Plastic over glass passivated junction
Polarity	Color band denotes cathode except Bipolar
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102D

Environmental Specifications

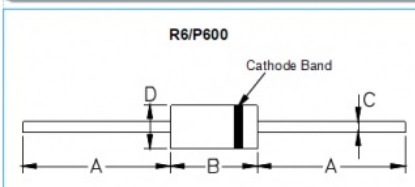
Temperature Cycle	JESD22-A104
Pressure Cooker	JESD22-A102
High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Thermal Shock	JESD22-A106

Soldering Parameters



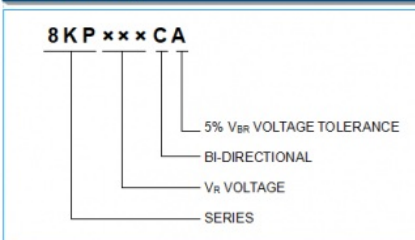
Reflow Condition		Lead-free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (min to max) (T_s)	60 - 180 Seconds
Average ramp up rate (Liquidus Temp T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	-Temperature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

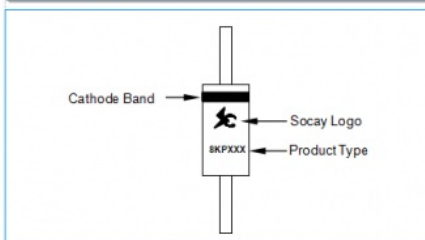


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	1.000	-	25.40	-
B	0.340	0.360	8.64	9.14
C	0.048	0.052	1.22	1.32
D	0.340	0.360	8.64	9.14

Part Numbering



Part Marking



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

Packaging Dimensions Unit: Inches (Millimeters)	

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