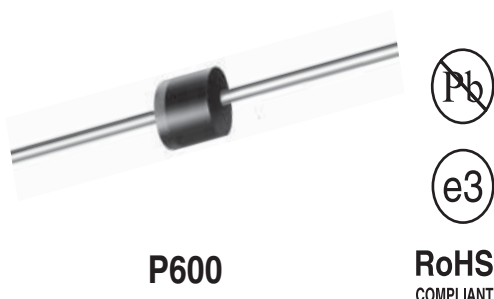


8KP12A-8KP43CA

Axial Lead TVS

TOP-EMC



Features

- Glass passivated chip junction
- 8000 W peak pulse power capability with a 10/1000us waveform
- Repetitive rate(duty cycle):0.01%
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Typical I_r less than 5uA
- High temperature soldering guaranteed 260 °C, 40 s

Mechanical Data

- Case: Molded plastic over glass passivated junction. Base P/NHE3 - RoHS compliant, high reliability/automotive grade (AEC Q101 qualified)
- Terminals: Plated Axial leads, solderable per J-STD-002 and JESD22-B102.
- Mounting Position: Any
- Polarity: Color band denotes cathode end

Typical Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.

Primary Characteristics

V_{RWM}	12 V to 43V
P_{PPM}	8000 W
P_D	8.0 W
I_{FSM}	600 A
T_J max.	175 °C

Characteristics

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

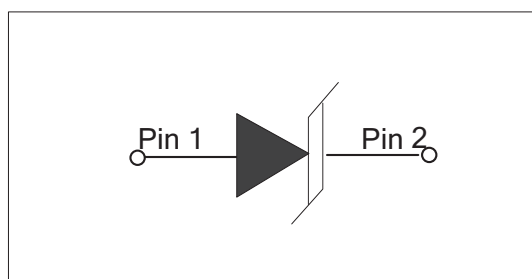
PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation with a 10/1000 μ s waveform ⁽¹⁾	P_{PPM}	8000	W
Peak pulse current with a 10/1000 μ s waveform ⁽¹⁾	I_{PPM}	See next table	A
Power dissipation on infinite heatsink at $T_L = 75\text{ °C}$ (Fig. 5)	P_D	8.0	W
Peak forward surge current 8.3 ms single half sine-wave (Fig. 3)	I_{FSM}	600	A
Instantaneous forward voltage at 100 A ⁽²⁾	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 175	°C

Notes:

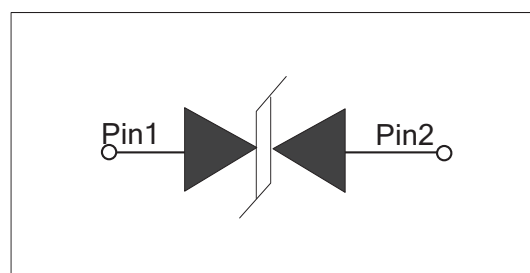
(1) Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25\text{ °C}$ per Fig. 2

(2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Pin Configuration



(Uni)



(Bi)

Electrical Characteristics

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage $V_{BR}(\text{Volts})@I_T$		Test Current I_T (mA)	Maximum Clamping $V_C@I_{PP}$ (V)	Maximum PeakPulse Current I_{PP} (A)	Maximum Reverse Leakage Current $I_R@V_{RWM}$ (μA)
UNI-POLAR	BI-POLAR		MIN	MAX				
8KP12A	8KP12CA	12.0	13.30	14.70	1	19.9	402	1
8KP13A	8KP13CA	13.0	14.40	16.50	1	21.5	372	1
8KP14A	8KP14CA	14.0	15.60	17.20	1	23.2	344	1
8KP15A	8KP15CA	15.0	16.70	19.20	1	24.4	327.8	1
8KP16A	8KP16CA	16.0	17.80	19.70	1	26.0	307.6	1
8KP17A	8KP17CA	17.0	18.90	21.70	1	27.6	289.8	1
8KP18A	8KP18CA	18.0	20.00	23.30	1	29.2	273.9	1
8KP20A	8KP20CA	20.0	22.20	25.50	1	32.4	246.9	1
8KP22A	8KP22CA	22.0	24.40	28.00	1	35.5	225.3	1
8KP24A	8KP24CA	24.0	26.70	30.70	1	38.9	205.6	1
8KP26A	8KP26CA	26.0	28.90	33.20	1	42.1	190.0	1
8KP28A	8KP28CA	28.0	31.10	35.80	1	45.4	176.2	1
8KP30A	8KP30CA	30.0	33.30	38.30	1	48.4	165.2	1
8KP33A	8KP33CA	33.0	36.70	42.20	1	53.3	150	1
8KP36A	8KP36CA	36.0	40.00	46.00	1	58.1	137.7	1
8KP40A	8KP40CA	40.0	44.40	51.10	1	64.5	124	1
8KP43A	8KP43CA	43.0	47.8	52.8	1	69.4	115	1

Ratings And Characteristics Curves

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

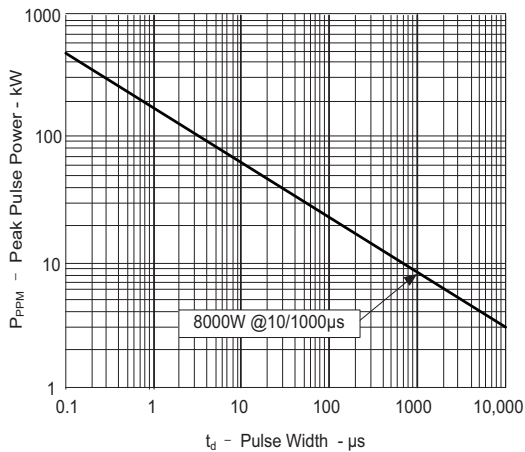


Figure 1. Peak Pulse Power Rating Curve

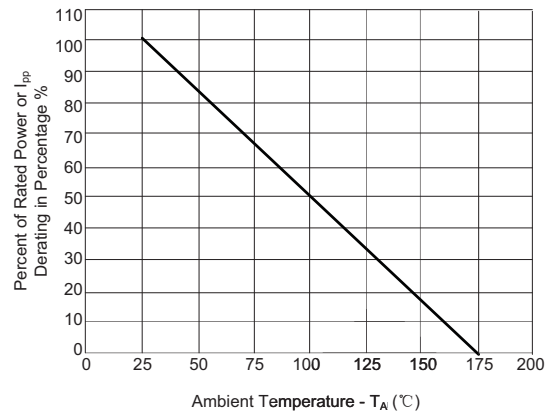


Figure 2. Pulse Power or Current vs. Initial Junction Temperature

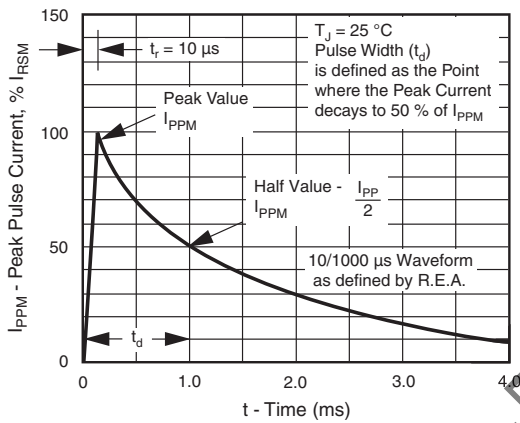


Figure 3. Pulse Waveform

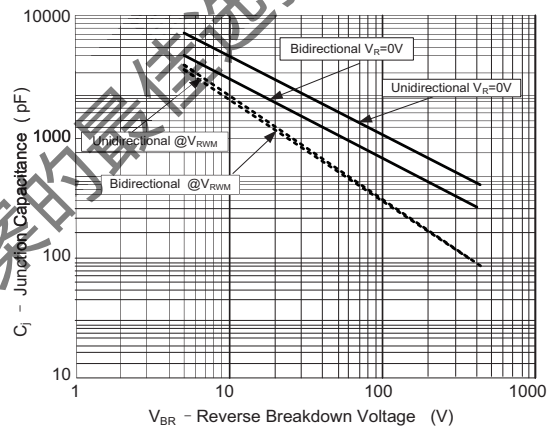


Figure 4. Typical Junction Capacitance

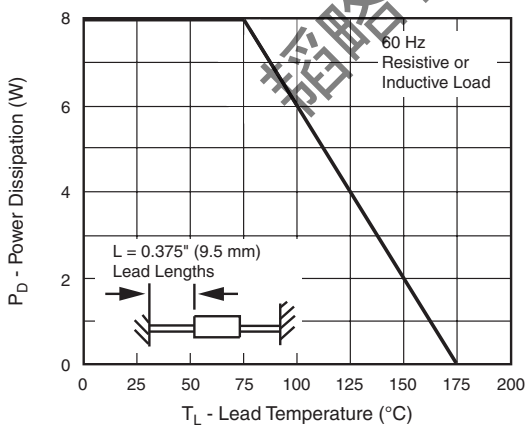


Figure 5. Power Derating Curve

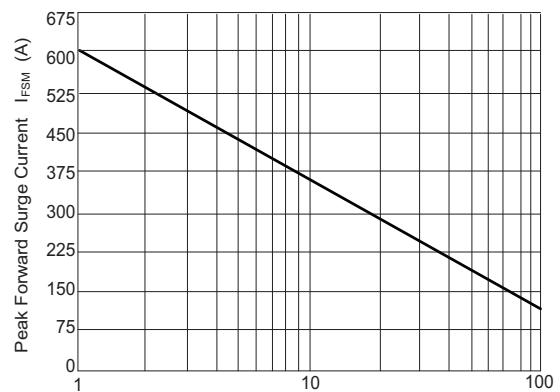
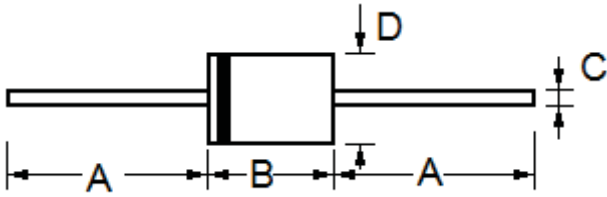


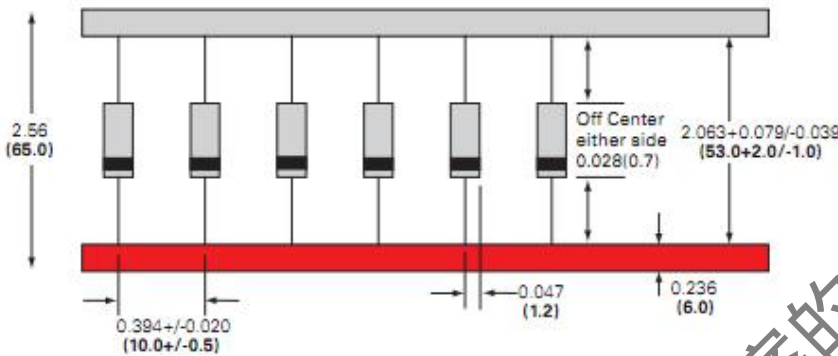
Figure 6. Maximum Non-repetitive Forward Surge Current

Package Dimensions



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	25.4	---	1.000	---
B	8.6	9.1	0.340	0.360
C	1.2	1.3	0.048	0.052
D	8.6	9.1	0.340	0.360

Tape & reel specification



Out line	Reel (pcs)	Per carton (pcs)	Packing Option
Taping	300	3K	Box

Application Note

The 8KP series of high power transient voltage suppressors were designed to be used on the output of switching power supplies. These devices may be used to replace crowbar circuits. Both the 5 % and 10 % voltage tolerances are referenced to the power supply output voltage level.

They are able to withstand high levels of peak current while allowing a circuit breaker to trip or a fuse blow before shorting. This will enable the user to reset the breaker or replace the fuse and continue operation. For this type operation, it is recommended that a sufficient mounting surface be used for dissipating the heat generated by the Transient Voltage Suppressor during the transient or over-voltage condition.

Marking Codes



Contact Information

SHENZHEN TOP-FLIGHT TECHNOLOGY CO.,LTD

4th Floor, C Building, Quansen Industrial Park , Bulong Road, Longhua New District, Shenzhen

Tel: 86-755-82908191 Fax: 86-755-82908701 Email: kang@topleve.com

Website: <http://www.topleve.com>