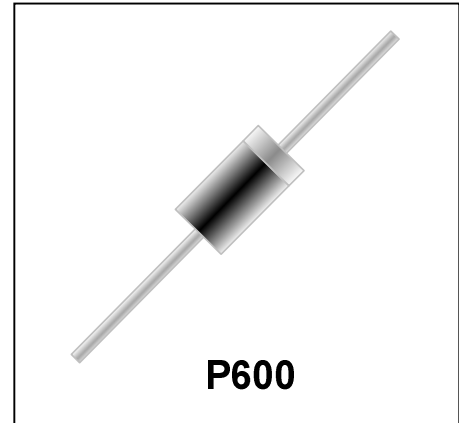


Automotive Load Dump Protection TVS

Features

- 8000 watts Peak Pulse Power (10/1000 μ s waveform)
- Unidirectional and Bidirectional Protection
- Fast Response Time :Typically < 1ns
- Excellent Clamping Capability
- Glass Passivated Junction
- Meets ISO7637-2 surge spec (varied by test condition)
- Plastic package has Underwriters Laboratory Flammability classification 94V-0
- High temperature soldering guaranteed:260 $^{\circ}$ C /10 seconds/.375",(9.5mm) lead length/5lbs.,(2.3kg) tension



Mechanical Characteristics

- JEDEC P600 molded plastic
- Polarity: Color band denoted cathode except Bipolar
- Marking: Marking Code
- Mounting Position: Any
- RoHS Compliant

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Signal lines of sensor units for consumer
- Industrial Electronics
- Computer

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=10/1000\mu s$) (see Note1 &2)	P _{PPM}	8000	W
Peak pulse current (10/1000 μ s) (see Note2)	I _{PPM}	See Electrical Characteristics	A
Peak Forward surge current (see Note2)	I _{FSM}	600	A
Power Dissipation on infinite heat sink T _L = 50 $^{\circ}$ C (Fig5)	P _D	8.0	W
Operating Junction Temperature range	T _J	-55 to + 175	$^{\circ}$ C
Typical Thermal Resistance Junction to Lead	R _{uJL}	8.0	$^{\circ}$ C/W

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25 $^{\circ}$ C per Fig.2.
2. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 per minute maximum.

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 Voltage $V_C@I_{PP}$ (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μA)
UNI-POLAR	BI-POLAR		MIN	MAX				
P8S10A	P8S10CA	10.0	11.1	12.30	5	17.0	470	50
P8S11A	P8S11CA	11.0	12.20	13.50	5	18.2	439.5	50
P8S12A	P8S12CA	12.0	13.30	14.70	5	19.9	402	50
P8S13A	P8S13CA	13.0	14.40	15.90	5	21.5	372	20
P8S14A	P8S14CA	14.0	15.60	17.20	5	23.2	344	20
P8S15A	P8S15CA	15.0	16.70	18.50	5	24.4	327.8	10
P8S16A	P8S16CA	16.0	17.80	19.70	5	26.0	307.6	10
P8S17A	P8S17CA	17.0	18.90	20.90	5	27.6	289.8	5
P8S18A	P8S18CA	18.0	20.00	22.10	5	29.2	273.9	5
P8S20A	P8S20CA	20.0	22.20	24.50	5	32.4	246.9	5
P8S22A	P8S22CA	22.0	24.40	26.90	5	35.5	225.3	5
P8S24A	P8S24CA	24.0	26.70	29.50	5	38.9	205.6	5
P8S26A	P8S26CA	26.0	28.90	31.90	5	42.1	190.0	5
P8S28A	P8S28CA	28.0	31.10	34.40	5	45.4	176.2	5
P8S30A	P8S30CA	30.0	33.30	36.80	5	48.4	165.2	5
P8S33A	P8S33CA	33.0	36.70	40.60	5	53.3	150	5
P8S36A	P8S36CA	36.0	40.00	44.20	5	58.1	137.7	5
P8S40A	P8S40CA	40.0	44.40	49.10	5	64.5	124	5
P8S43A	P8S43CA	43.0	47.8	52.8	5	69.4	115	5

Typical Characteristics

Figure 1. Peak Pulse Power Rating Curve

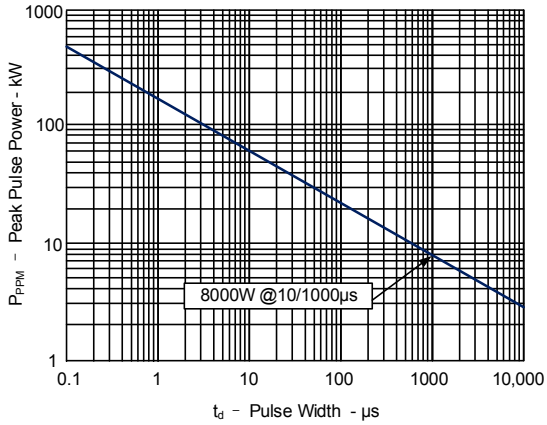


Figure 2. Pulse Derating Curve

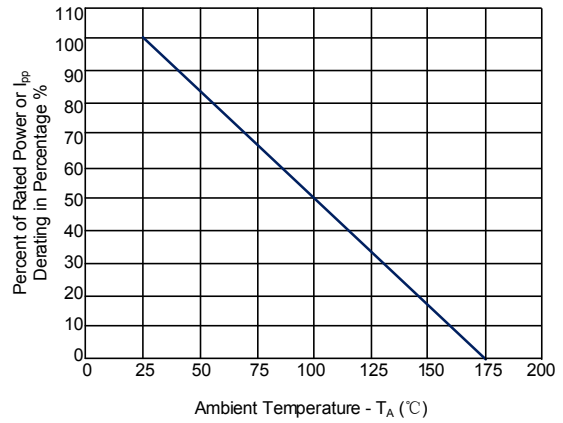


Figure 3. Pulse Waveform

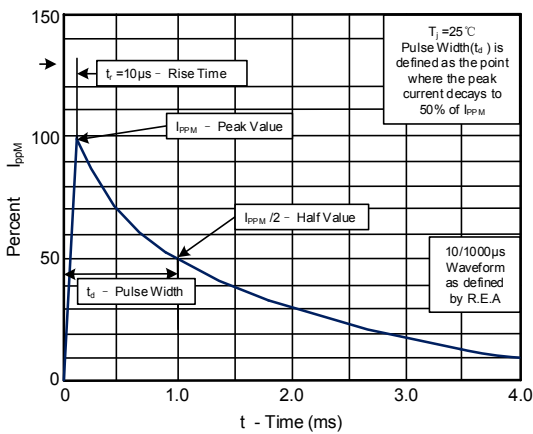
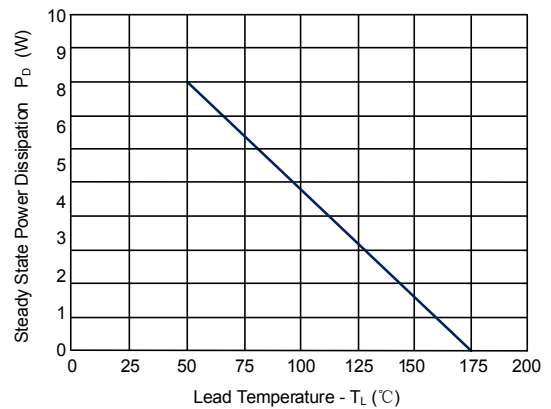
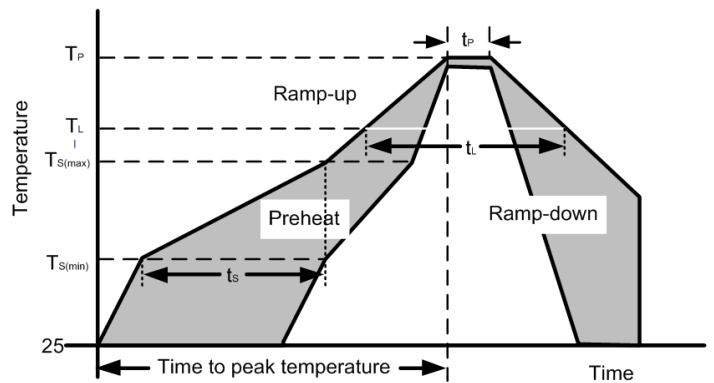


Figure 5. Steady State Power Dissipation Derating Curve



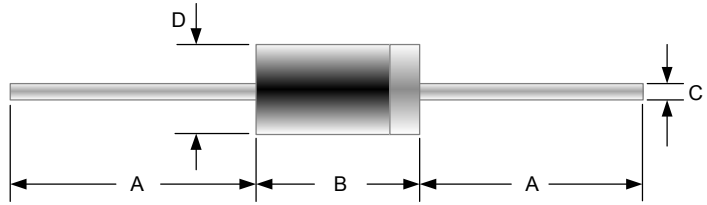
Soldering Parameters

Reflow Condition		
Pre Heat	Temperature min ($T_{S(min)}$)	150°C
	Temperature max ($T_{S(max)}$)	200°C
	Time (min to max) (t_s)	60-190 s
Average ramp up rate (Liquidus Temp) (T_L) to peak		3°C/s max
Ts(max) to TL - Ramp-up Rate		3°C/s max
Reflow	Temperature(T_L) (Liquidus)	217°C
	Temperature (t_L)	60-150 s
Peak Temperature (T_P)		260 ^{+0/-5} °C
Time within actual peak Temperature (t_p)		20-40 s
Ramp-down Rate		5°C/s max
Time 25°C to peak Temperature (T_P)		8 minutes max
Do not exceed		260°C

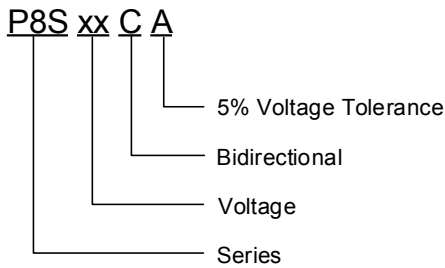


Package Outline Dimension

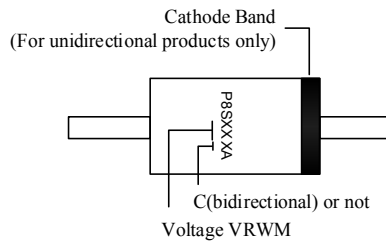
Ref.(mm)	Millimeters	
	Min.	Max.
A	25.40	-
B	8.60	9.10
C	1.22	1.32
D	8.60	9.10



Part Numbering System



Part Marking System



Package Information

Package Type	Description	Quantity (pcs)
P-600	Tape & Box	300

Contact Information

No.1001, Shiwan(7) Road, Pudong District, Shanghai, P.R.China.201207
 Tel: +86-21-68969993 Fax: 86-21-50757680 Email: market@way-on.com
 WAYON website: <http://www.way-on.com>

For additional information, please contact your local Sales Representative.

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*Specifications are subject to change without notice.
 The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
 Users should verify actual device performance in their specific applications.*