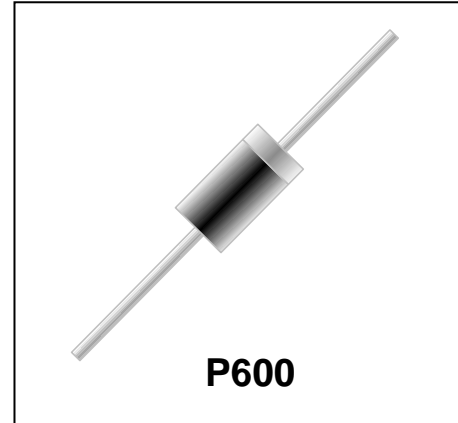


Power Transient Voltage Suppressor

Features

- 12000 watts Peak Pulse Power (10/1000 μ s)
- Unidirectional and Bidirectional Protection
- Fast Response Time :Typically < 1ns
- Excellent Clamping Capability
- Glass Passivated Junction
- Low incremental surge resistance
- 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
- 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

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 10/1000\mu s$) (see Note1)	P_{PPM}	12000	W
Peak pulse current (10/1000 μ s) (see Note1)	I_{PPM}	See Electrical Characteristics	A
Peak Forward surge current (see Note2)	I_{FSM}	400	A
Power Dissipation on infinite heat sink $T_L = 50^{\circ}C$ (Fig4)	P_D	8.0	W
Operating Junction Temperature range	T_J	-55 to + 150	$^{\circ}C$

Note1: Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^{\circ}C$ per Fig.2.

Note2: 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} (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 $I_R@V_{RWM}$ (μ A)
UNI-POLAR	BI-POLAR		MIN	MAX				
12KP20A	12KP20CA	20	22.2	24.5	5	34.3	349	20
12KP22A	12KP22CA	22	24.4	27.0	5	37.1	323	15
12KP24A	12KP24CA	24	26.7	29.5	5	40.5	294	5
12KP26A	12KP26CA	26	28.9	31.9	5	44.0	272	5
12KP28A	12KP28CA	28	31.1	34.4	5	47.5	252	5
12KP30A	12KP30CA	30	33.3	36.8	5	50.7	236	5
12KP33A	12KP33CA	33	36.7	40.6	5	54.8	219	5
12KP36A	12KP36CA	36	40.0	44.2	5	59.7	200	5
12KP40A	12KP40CA	40	44.4	49.1	5	65.8	182	5
12KP43A	12KP43CA	43	47.8	52.8	5	69.7	171	5
12KP48A	12KP48CA	48	53.6	58.7	5	77.7	154	5

Typical Characteristics

Figure 1. Peak Pulse Power Rating Curve

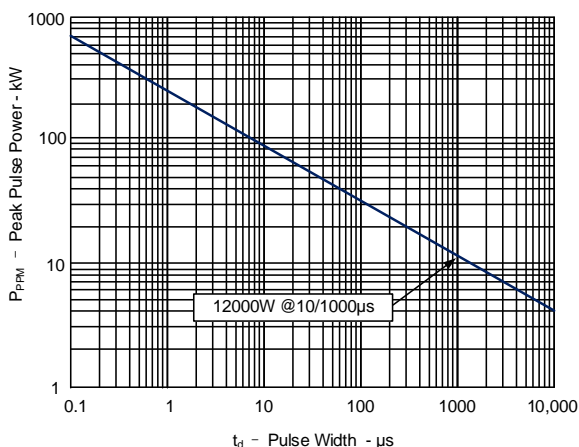


Figure 2. Pulse Derating Curve

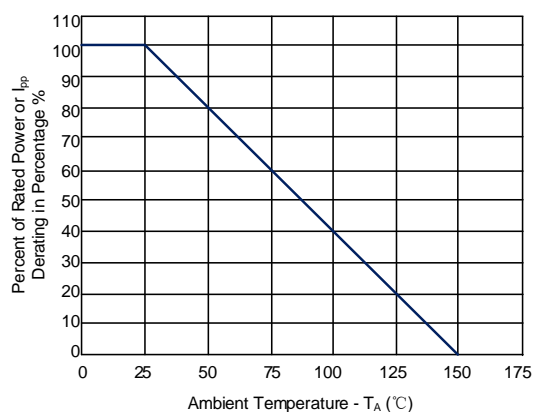


Figure 3. Pulse Waveform

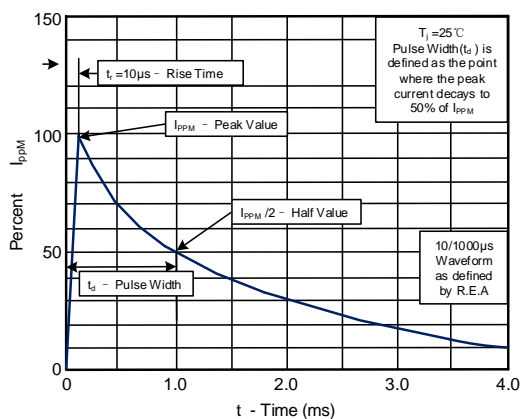
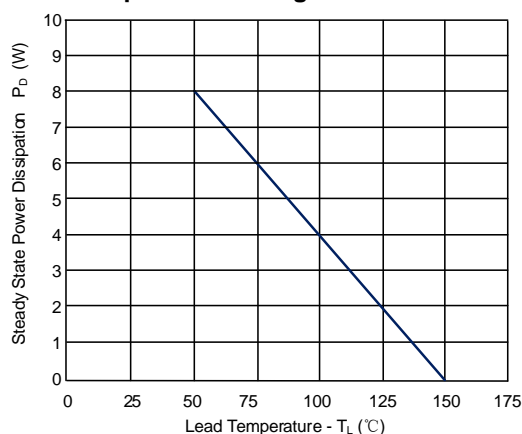
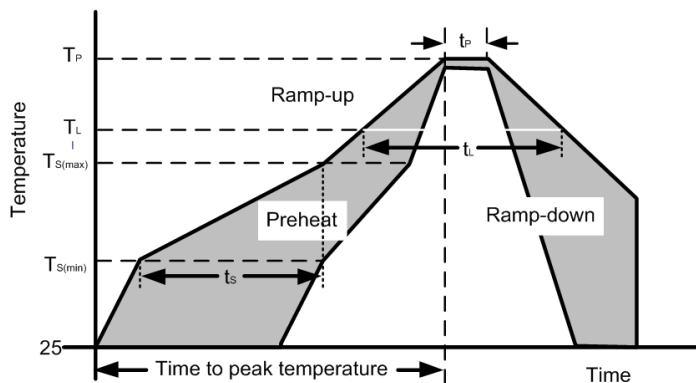


Figure 4. Steady State Power Dissipation Derating Curve



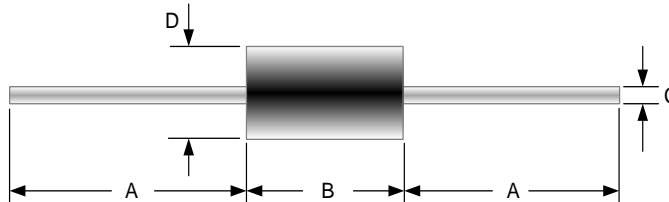
Soldering Parameters

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

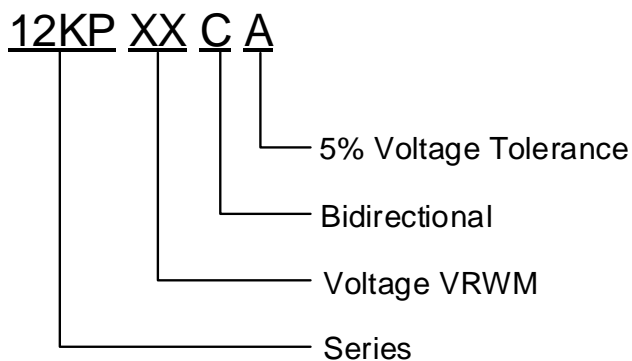


Outline Drawing - P600

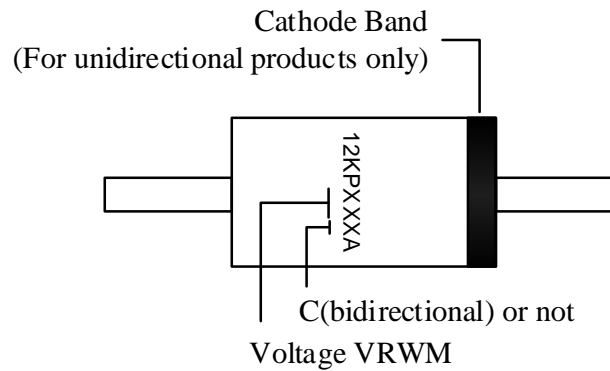
Ref.(mm)	Millimeters	
	Min.	Max.
A	25.40	-
B	8.60	9.40
C	1.20	1.40
D	8.60	9.10



Part Numbering System



Part Marking System



Package Information

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

Contact Information

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For additional information, please contact your local Sales Representative.

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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.*