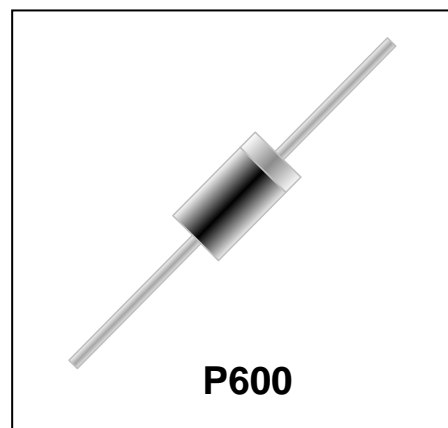


15KP Series

Power Transient Voltage Suppressor

Features

- 15000 watts Peak Pulse Power (10/1000 μ s waveform)
- Unidirectional and Bidirectional Protection
- Fast Response Time :Typically < 1ns
- Excellent Clamping Capability
- Glass Passivated Junction in P600 Package
- Low incremental surge resistance
- Plastic package has Underwriters Laboratory Flammability classification 94V-0
- High temperature soldering guaranteed:260°C /40 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/WEEE 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& 3)	P_{PPM}	15000	W
Peak pulse current (10/1000 μ s) (see Note2&3)	I_{PPM}	See Electrical Characteristics	A
Peak Forward surge current (see Note4&5)	I_{FSM}	400	A
Power Dissipation on infinite heat sink $T_A = 50^\circ C$ (Fig5)	P_D	10.0	W
Operating Junction Temperature range	T_J	-55 to + 175	$^\circ C$
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	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.
3. $V_F < 3.5V$ for devices of $V_{BR} \leq 200V$ and $V_F < 5.0V$ for devices of $V_{BR} \geq 201V$.

Electrical Characteristics

Part Number		Reverse Stand off Voltage V_{RWM}	Breakdown Voltage $V_{BR}(\text{Volts})@I_T$	Test Current I_T	Maximum Clamping Voltage $V_C@I_{PP}$	Maximum PeakPulse Current I_{pp}	Maximum Reverse Leakage Current $I_R@V_{RWM}$
UNI-POLAR	BI-POLAR	(V)	MIN	(mA)	(V)	(A)	(μA)
15KP17A	15KP17CA	17	18.9	50	29.3	512	5000
15KP18A	15KP18CA	18	20.0	50	30.9	485	5000
15KP20A	15KP20CA	20	22.2	20	34.3	437	1500
15KP22A	15KP22CA	22	24.4	10	37.1	404	500
15KP24A	15KP24CA	24	26.7	5	40.5	369	150
15KP26A	15KP26CA	26	28.9	5	44.0	347	50
15KP28A	15KP28CA	28	31.1	5	47.5	316	25
15KP30A	15KP30CA	30	33.3	5	50.7	296	15
15KP33A	15KP33CA	33	36.7	5	54.8	274	10
15KP36A	15KP36CA	36	40.0	5	59.7	251	10
15KP40A	15KP40CA	40	44.4	5	65.8	228	10
15KP43A	15KP43CA	43	47.8	5	69.7	215	10
15KP45A	15KP45CA	45	50.0	5	73.0	205	10
15KP48A	15KP48CA	48	53.3	5	77.7	193	10
15KP51A	15KP51CA	51	56.7	5	82.8	181	10
15KP54A	15KP54CA	54	60.0	5	87.5	171	10
15KP58A	15KP58CA	15	64.4	5	94.0	160	10
15KP60A	15KP60CA	60	66.7	5	97.3	154	10
15KP64A	15KP64CA	64	71.1	5	104.0	144	10
15KP70A	15KP70CA	70	77.8	5	114.0	132	10
15KP75A	15KP75CA	75	83.3	5	122.0	123	10
15KP78A	15KP78CA	78	86.7	5	126.0	119	10
15KP85A	15KP85CA	85	94.4	5	137.0	109	10
15KP90A	15KP90CA	90	100	5	146.0	103	10
15KP100A	15KP100CA	100	111	5	162.0	93	10
15KP110A	15KP110CA	110	122	5	178.0	84	10
15KP120A	15KP120CA	120	133	5	193.0	78	10

Electrical Characteristics (Cont.)

Part Number		Reverse Stand off Voltage V_{RWM}	Breakdown Voltage $V_{BR}(\text{Volts})@I_T$	Test Current I_T	Maximum Clamping Voltage $V_C@I_{PP}$	Maximum PeakPulse Current I_{PP}	Maximum Reverse Leakage Current $I_R@V_{RWM}$
UNI-POLAR	BI-POLAR	(V)	MIN	(mA)	(V)	(A)	(μA)
15KP130A	15KP130CA	130	144	5	209.0	72	10
15KP150A	15KP150CA	150	167	5	243.0	62	10
15KP160A	15KP160CA	160	178	5	259.0	58	10
15KP170A	15KP170CA	170	189	5	275.0	55	10
15KP180A	15KP180CA	180	200	5	291.0	52	10
15KP200A	15KP200CA	200	209	5	322.0	47	10
15KP220A	15KP220CA	220	222	5	356.0	42	10
15KP240A	15KP240CA	240	267	5	388.0	39	10
15KP260A	15KP260CA	260	289	5	419.0	36	10
15KP280A	15KP280CA	280	311	5	452.0	33	10

For bidirectional type V_R of 10 volts and less, the I_R limit is double.

For parts without A, the V_{BR} is $\pm 10\%$ and V_C is 5% higher than with A parts.

Typical Characteristics

Figure 1. Peak Pulse Power Rating Curve

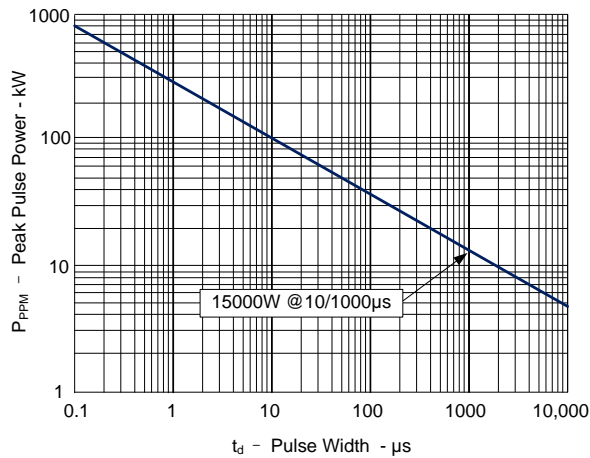


Figure 2. Pulse Derating Curve

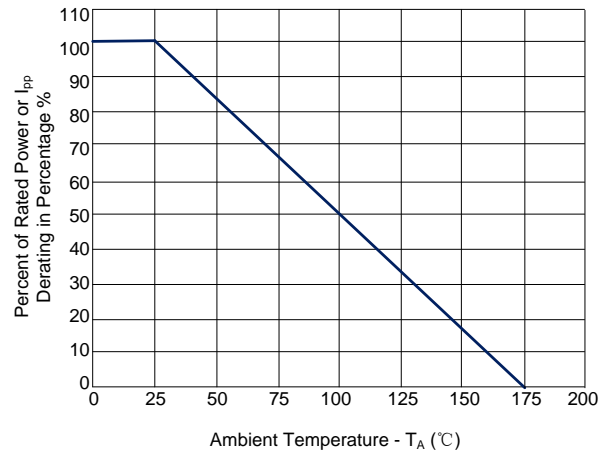


Figure 3. Pulse Waveform

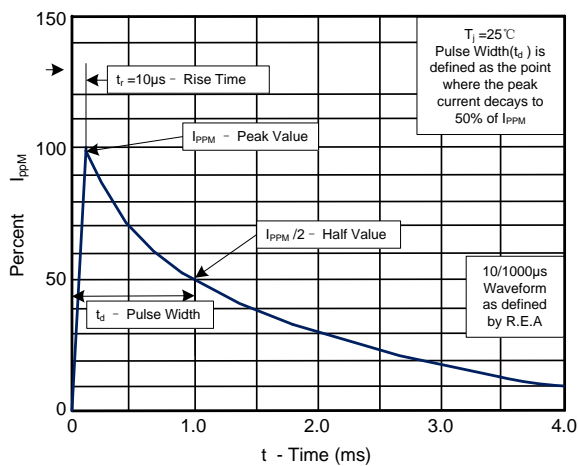


Figure 4. Typical Junction Capacitance

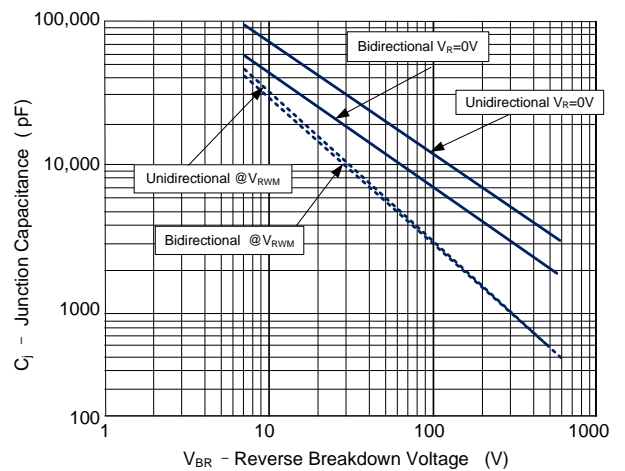


Figure 5. Steady State Power Dissipation Derating Curve

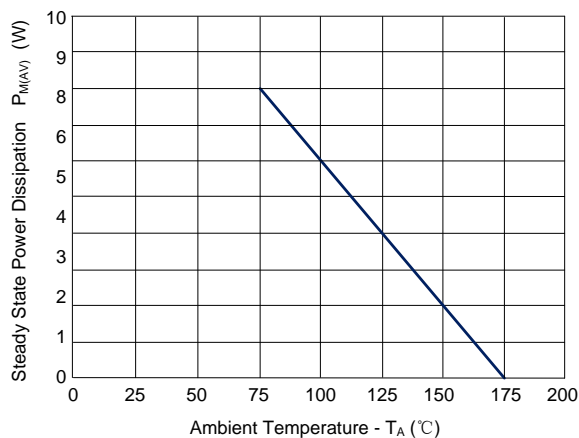
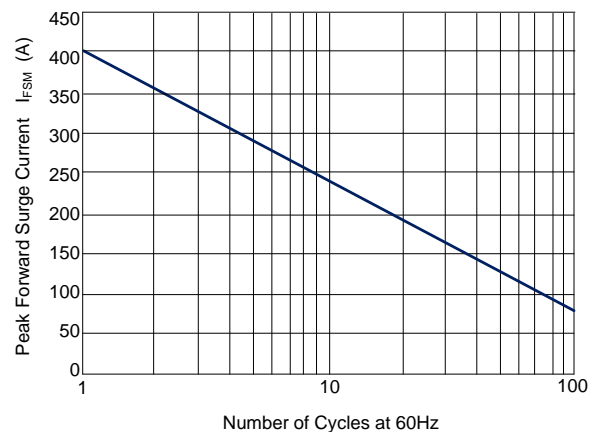
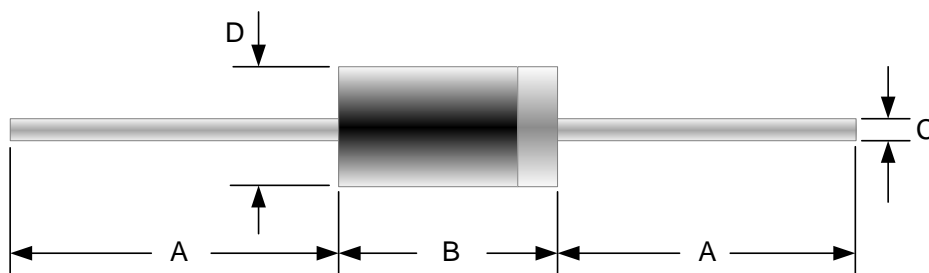


Figure 6. Maximum Non-Repetitive Forward Surge Current Only Unidirectional



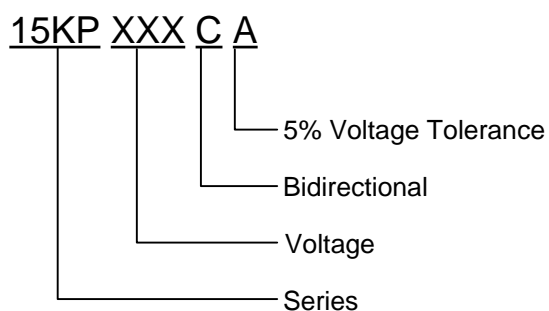
Package Outline Dimension



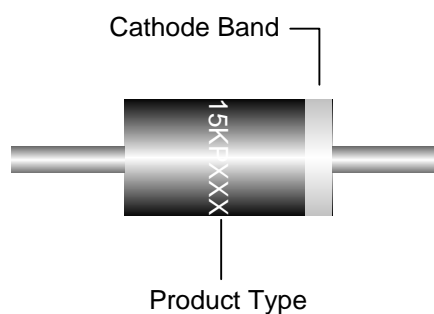
P600

Ref.(mm)	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	1.000	-	25.40	-
B	0.340	0.360	8.60	9.10
C	0.048	0.052	1.22	1.32
D	0.340	0.360	8.60	9.10

Part Numbering System



Part Marking System



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