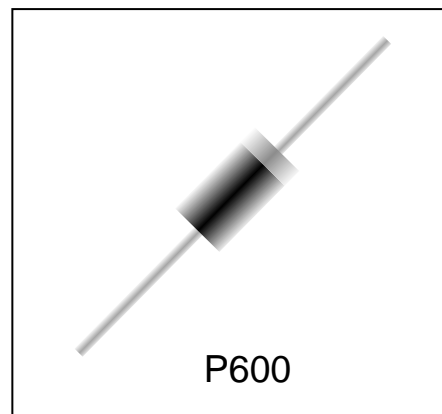


3KP Series

Power Transient Voltage Suppressor

Features

- 3000 watts Peak Pulse Capability(10/1000μs waveform)
Repetition Rate(duty cycles):0.01%
- Typical Maximum Temperature Coefficient
 $\Delta V_{BR} = 0.1\% \times V_{BR} @ 25^{\circ}\text{C}$
- Glass Passivated chip junction in P600 Package
- Fast Response Time : Typically < 1.0ps from 0V to BV min
- Excellent Clamping Capability
- Low incremental surge resistance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Typical I_R less than 2μA above 12V
- High temperature soldering guaranteed:260°C /40 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension
- Matte Tin Lead-free plated



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

Maximum Rating and Thermal Characteristics ($T_A=25^{\circ}\text{C}$)

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 10/1000\mu\text{s}$) (see Note1,2& 3)	P_{PPM}	3000	W
Peak pulse current (10/1000 μs) (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 $T_A = 50^{\circ}\text{C}$ (Fig5)	P_D	8.0	W
Operating Junction Temperature range	T_J	-55 to + 175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Lead	R_{uJL}	8.0	$^{\circ}\text{C/W}$

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^{\circ}\text{C}$ per Fig.2.
2. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 per minute maximum.
3. $V_F < 3.5\text{V}$ for devices of $V_{BR} \leq 200\text{V}$ and $V_F < 5.0\text{V}$ for devices of $V_{BR} \geq 201\text{V}$.

Electrical Characteristics

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage $V_{BR}(V)@I_T$		Test Current I_T (mA)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Maximum PeakPulse Current I_{PP} (A)	Maximum Reverse Leakage Current $I_R@V_{RWM}$ (μA)
UNI-POLAR	BI-POLAR		MIN	MAX				
3KP5.0A	3KP5.0CA	5.0	6.40	7.00	50	9.2	326.1	5000
3KP6.0A	3KP6.0CA	6.0	6.67	7.37	50	10.3	291.3	5000
3KP6.5A	3KP6.5CA	6.5	7.22	7.98	50	11.2	267.9	2000
3KP7.0A	3KP7.0CA	7.0	7.78	8.60	50	12.0	250.0	1000
3KP7.5A	3KP7.5CA	7.5	8.33	9.21	5	12.9	232.6	250
3KP8.0A	3KP8.0CA	8.0	8.89	9.83	5	13.6	220.6	150
3KP8.5A	3KP8.5CA	8.5	9.44	10.40	5	14.4	208.3	50
3KP9.0A	3KP9.0CA	9.0	10.00	11.10	5	15.4	194.8	20
3KP10A	3KP10CA	10.0	11.10	12.30	5	17.0	176.5	15
3KP11A	3KP11CA	11.0	12.20	13.50	5	18.2	164.8	2
3KP12A	3KP12CA	12.0	13.30	14.70	5	19.9	150.8	2
3KP13A	3KP13CA	13.0	14.40	15.90	5	21.5	139.5	2
3KP14A	3KP14CA	14.0	15.60	17.20	5	23.2	129.3	2
3KP15A	3KP15CA	15.0	16.70	18.50	5	24.4	123.0	2
3KP16A	3KP16CA	16.0	17.80	19.70	5	26.0	115.4	2
3KP17A	3KP17CA	17.0	18.90	20.90	5	27.6	108.7	2
3KP18A	3KP18CA	18.0	20.00	22.10	5	29.2	102.7	2
3KP20A	3KP20CA	20.0	22.20	24.50	5	32.4	92.6	2
3KP22A	3KP22CA	22.0	24.40	26.90	5	35.5	84.5	2
3KP24A	3KP24CA	24.0	26.70	29.50	5	38.9	77.1	2
3KP26A	3KP26CA	26.0	28.90	31.90	5	42.1	71.3	2
3KP28A	3KP28CA	28.0	31.10	34.40	5	45.4	66.1	2
3KP30A	3KP30CA	30.0	33.30	36.80	5	48.4	62.0	2
3KP33A	3KP33CA	33.0	36.70	40.60	5	53.3	56.3	2
3KP36A	3KP36CA	36.0	40.00	44.20	5	58.1	51.6	2
3KP40A	3KP40CA	40.0	44.40	49.10	5	64.5	46.5	2
3KP43A	3KP43CA	43.0	47.80	52.80	5	69.4	43.2	2

Electrical Characteristics (Cont.)

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage $V_{BR}(V)@I_T$		Test Current I_T (mA)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Maximum PeakPulse Current I_{PP} (A)	Maximum Reverse Leakage Current $I_R@V_{RWM}$ (μA)
UNI-POLAR	BI-POLAR		MIN	MAX				
3KP45A	3KP45CA	45.0	50.00	55.30	5	72.7	41.3	2
3KP48A	3KP48CA	48.0	53.30	58.90	5	77.4	38.8	2
3KP51A	3KP51CA	51.0	56.70	62.70	5	82.4	36.4	2
3KP54A	3KP54CA	54.0	60.00	66.30	5	87.1	34.4	2
3KP58A	3KP58CA	58.0	64.40	71.20	5	93.6	32.1	2
3KP60A	3KP60CA	60.0	66.70	73.70	5	96.8	31.0	2
3KP64A	3KP64CA	64.0	71.10	78.60	5	103.0	29.1	2
3KP70A	3KP70CA	70.0	77.80	86.00	5	113.0	26.5	2
3KP75A	3KP75CA	75.0	83.30	92.10	5	121.0	24.8	2
3KP78A	3KP78CA	78.0	86.70	95.80	5	126.0	23.8	2
3KP85A	3KP85CA	85.0	94.40	104.00	5	137.0	21.9	2
3KP90A	3KP90CA	90.0	100.00	111.00	5	146.0	20.5	2
3KP100A	3KP100CA	100.0	110.00	123.00	5	162.0	18.5	2
3KP110A	3KP110CA	110.0	122.00	135.00	5	177.0	16.9	2
3KP120A	3KP120CA	120.0	133.00	147.00	5	193.0	15.5	2
3KP130A	3KP130CA	130.0	144.00	159.00	5	209.0	14.4	2
3KP150A	3KP150CA	150.0	167.00	185.00	5	243.0	12.3	2
3KP160A	3KP160CA	160.0	178.00	197.00	5	259.0	11.6	2
3KP170A	3KP170CA	170.0	189.00	209.00	5	275.0	10.9	2
3KP180A	3KP180CA	180.0	200.00	221.00	5	289.0	10.4	2
3KP190A	3KP190CA	190.0	211.00	233.00	5	310.0	9.7	2
3KP200A	3KP200CA	200.0	222.00	246.00	5	329.2	9.1	2
3KP210A	3KP210CA	210.0	233.00	258.00	5	349.5	8.6	2
3KP220A	3KP220CA	220.0	244.00	270.00	5	371.1	8.1	2

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

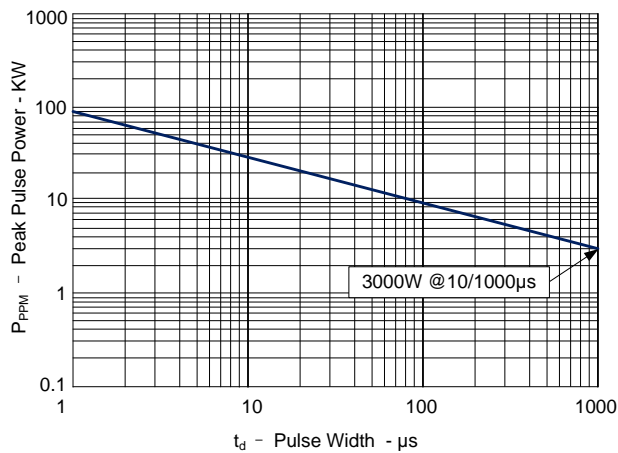


Figure 2. Pulse Derating Curve

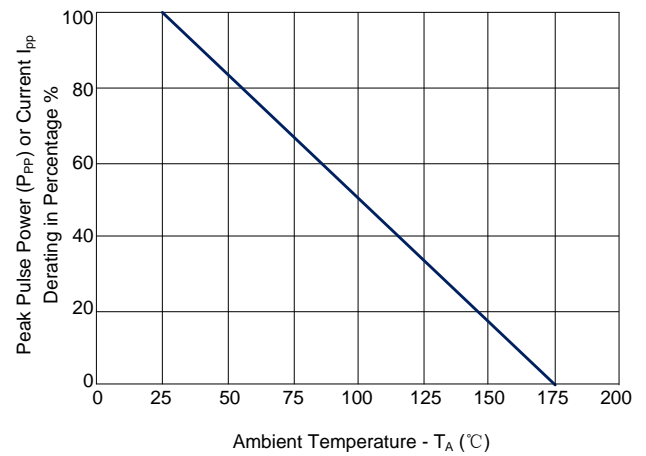


Figure 3. Pulse Waveform

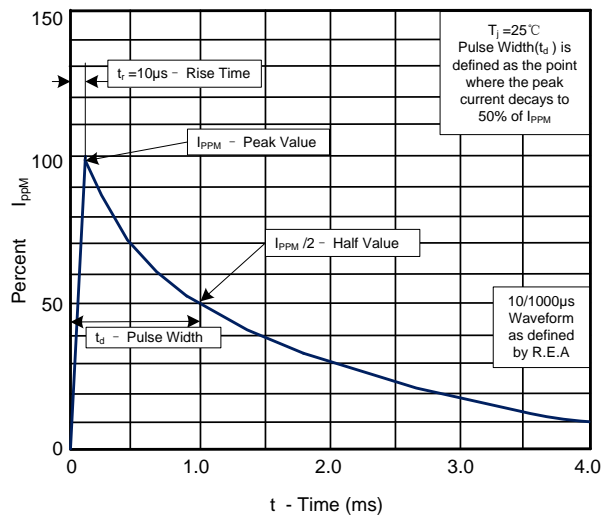


Figure 4. Typical Junction Capacitance

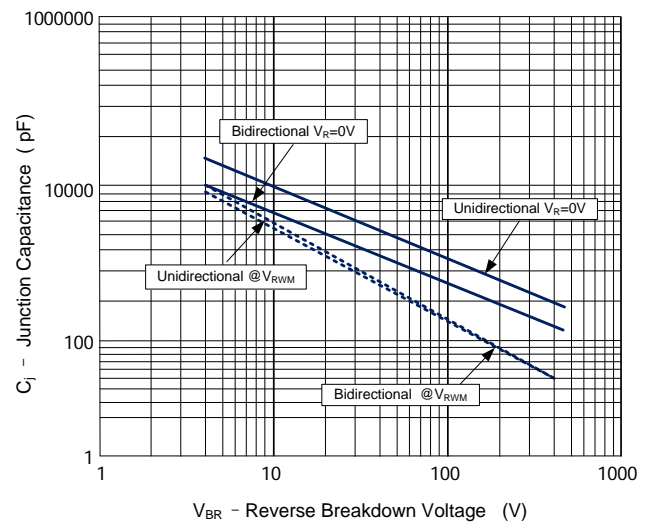


Figure 5. Steady State Power Derating Curve

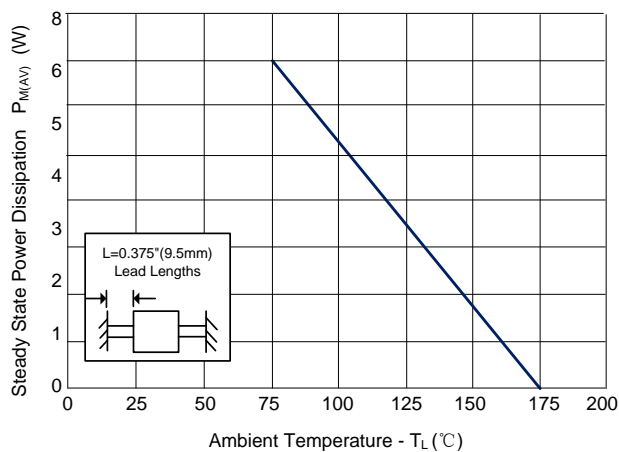
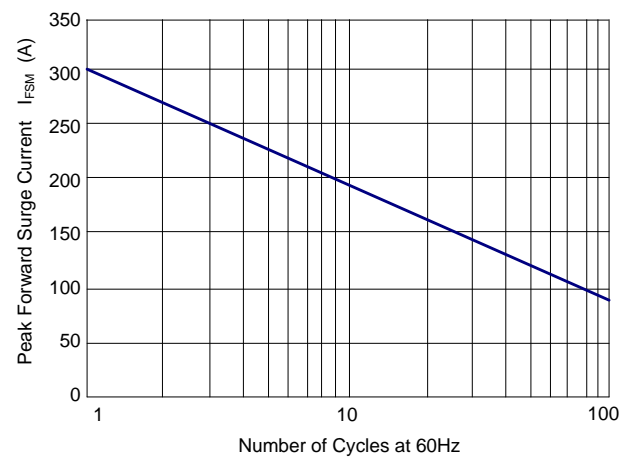
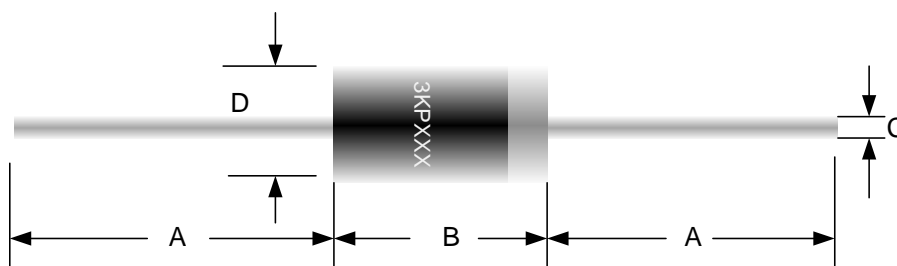


Figure 6. Maximum Non-Repetitive Peak Forward Surge Current



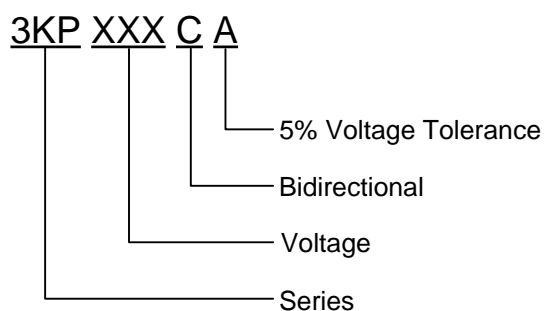
Package Outline Dimension



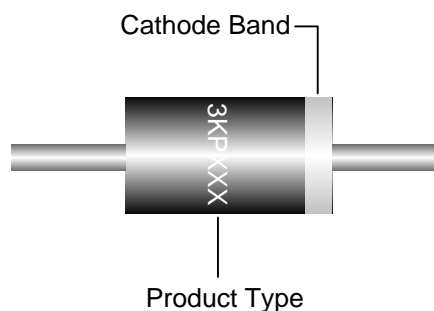
P600

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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