

Features

- Glass passivated chip
- 3000 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard



**Axial Leaded
P600**



Mechanical Characteristics

- Case: P600 Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Applications

- I/O Interfaces
- Power lines
- Telecommunication
- Consumer electronic
- Industrial Electronics

Maximum Ratings and Electrical Characteristics

Rating	Symbol	Value	Units
Peak power dissipation with a 10/1000 us waveform ⁽¹⁾	P_{PP}	3000	W
Peak pulse current with a 10/1000 us waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75\text{ }^{\circ}\text{C}$	P_D	6.5	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only ⁽²⁾	I_{FSM}	300	A
Maximum instantaneous forward voltage at 50 A for unidirectional only ⁽³⁾	V_F	3.5/6.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

1) Non-repetitive current pulse per Fig.5 and derated above $T_A = 25\text{ }^{\circ}\text{C}$ per Fig.1 ;

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

3) $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$ and $V_F < 6.5\text{V}$ for devices of $V_{BR} > 201\text{V}$.

3KP Series 3000Watts Transient Voltage Suppressor

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 $I_R@V_{RWM} (\mu A)$
			MIN	MAX				
UNI-POLAR	BI-POLAR							
3KP5.0A	3KP5.0CA	5.0	6.40	7.00	10	9.2	326.1	800
3KP6.0A	3KP6.0CA	6.0	6.67	7.37	10	10.3	291.3	800
3KP6.5A	3KP6.5CA	6.5	7.22	7.98	10	11.2	267.9	500
3KP7.0A	3KP7.0CA	7.0	7.78	8.60	10	12.0	250.0	200
3KP7.5A	3KP7.5CA	7.5	8.33	9.21	1	12.9	232.6	100
3KP8.0A	3KP8.0CA	8.0	8.89	9.83	1	13.6	220.6	50
3KP8.5A	3KP8.5CA	8.5	9.44	10.40	1	14.4	208.3	20
3KP9.0A	3KP9.0CA	9.0	10.00	11.10	1	15.4	194.8	10
3KP10A	3KP10CA	10.0	11.10	12.30	1	17.0	176.5	5
3KP11A	3KP11CA	11.0	12.20	13.50	1	18.2	164.8	1
3KP12A	3KP12CA	12.0	13.30	14.70	1	19.9	150.8	1
3KP13A	3KP13CA	13.0	14.40	15.90	1	21.5	139.5	1
3KP14A	3KP14CA	14.0	15.60	17.20	1	23.2	129.3	1
3KP15A	3KP15CA	15.0	16.70	18.50	1	24.4	123.0	1
3KP16A	3KP16CA	16.0	17.80	19.70	1	26.0	115.4	1
3KP17A	3KP17CA	17.0	18.90	20.90	1	27.6	108.7	1
3KP18A	3KP18CA	18.0	20.00	22.10	1	29.2	102.7	1
3KP20A	3KP20CA	20.0	22.20	24.50	1	32.4	92.6	1
3KP22A	3KP22CA	22.0	24.40	26.90	1	35.5	84.5	1
3KP24A	3KP24CA	24.0	26.70	29.50	1	38.9	77.1	1
3KP26A	3KP26CA	26.0	28.90	31.90	1	42.1	71.3	1
3KP28A	3KP28CA	28.0	31.10	34.40	1	45.4	66.1	1
3KP30A	3KP30CA	30.0	33.50	36.80	1	48.4	62.0	1
3KP33A	3KP33CA	33.0	36.70	40.60	1	53.3	56.3	1
3KP36A	3KP36CA	36.0	40.00	44.20	1	58.1	51.6	1
3KP40A	3KP40CA	40.0	44.40	49.10	1	64.5	46.5	1
3KP43A	3KP43CA	43.0	47.80	52.80	1	69.4	43.2	1
3KP45A	3KP45CA	45.0	50.00	55.30	1	72.7	41.3	1
3KP48A	3KP48CA	48.0	53.30	58.90	1	77.4	38.8	1
3KP51A	3KP51CA	51.0	56.70	62.70	1	82.4	36.4	1
3KP54A	3KP54CA	54.0	60.00	66.30	1	87.1	34.4	1
3KP58A	3KP58CA	58.0	64.40	71.20	1	93.6	32.1	1
3KP60A	3KP60CA	60.0	66.70	73.70	1	96.8	31.0	1

3KP Series 3000Watts Transient Voltage Suppressor

Electrical Characteristics (continued)

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage		Test Current I_T (mA)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Maximum PeakPulse Current I_{PP} (A)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μ A)
			MIN	MAX				
UNI-POLAR	BI-POLAR							
3KP64A	3KP64CA	64.0	71.10	78.60	1	103.0	29.1	1
3KP70A	3KP70CA	70.0	77.80	86.00	1	113.0	26.5	1
3KP75A	3KP75CA	75.0	83.30	92.10	1	121.0	24.8	1
3KP78A	3KP78CA	78.0	86.70	95.80	1	126.0	23.8	1
3KP85A	3KP85CA	85.0	94.40	104.00	1	137.0	21.9	1
3KP90A	3KP90CA	90.0	100.00	111.00	1	146.0	20.5	1
3KP100A	3KP100CA	100.0	111.00	123.00	1	162.0	18.5	1
3KP110A	3KP110CA	110.0	122.00	135.00	1	177.0	16.9	1
3KP120A	3KP120CA	120.0	133.00	147.00	1	193.0	15.5	1
3KP130A	3KP130CA	130.0	144.00	159.00	1	209.0	14.4	1
3KP150A	3KP150CA	150.0	167.00	185.00	1	243.0	12.3	1
3KP160A	3KP160CA	160.0	178.00	197.00	1	259.0	11.6	1
3KP170A	3KP170CA	170.0	189.00	209.00	1	275.0	10.9	1
3KP180A	3KP180CA	180.0	201.00	222.00	1	292.0	10.3	1
3KP190A	3KP190CA	190.0	209.00	243.00	1	308.0	9.7	1
3KP200A	3KP200CA	200.0	224.00	247.00	1	324.2	9.3	1
3KP210A	3KP210CA	210.0	231.00	268.00	1	340.0	8.8	1
3KP220A	3KP220CA	220.0	246.00	272.00	1	356.0	8.4	1
3KP250A	3KP250CA	250.0	279.00	309.00	1	405.0	7.4	1
3KP300A	3KP300CA	300.0	335.00	371.00	1	486.0	6.2	1
3KP350A	3KP350CA	350.0	391.00	432.00	1	567.0	5.3	1
3KP400A	3KP400CA	400.0	447.00	494.00	1	648.0	4.6	1
3KP440A	3KP440CA	440.0	492.00	543.00	1	713.0	4.2	1

Ratings and Characteristics Curves (TA=25°C unless otherwise noted)

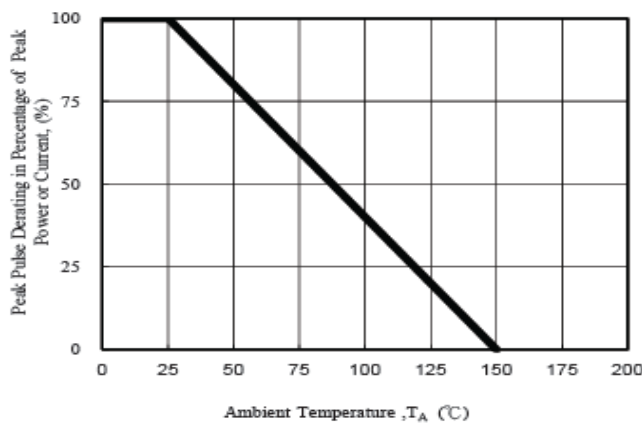


Fig. 1 - Pulse Derating Curve

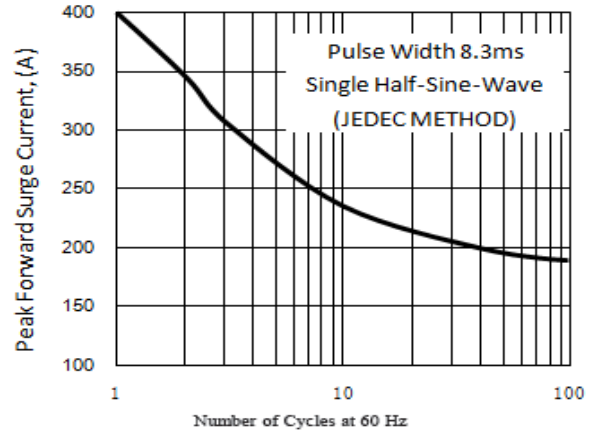


Fig. 2 - Maximum Non-Repetitive Surge Current

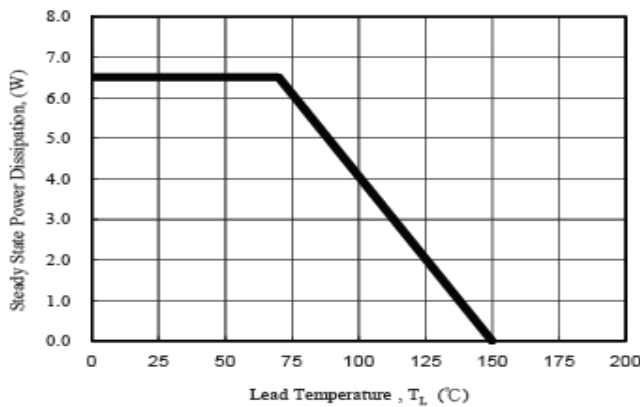


Fig. 3 - Steady State Power Derating Curve

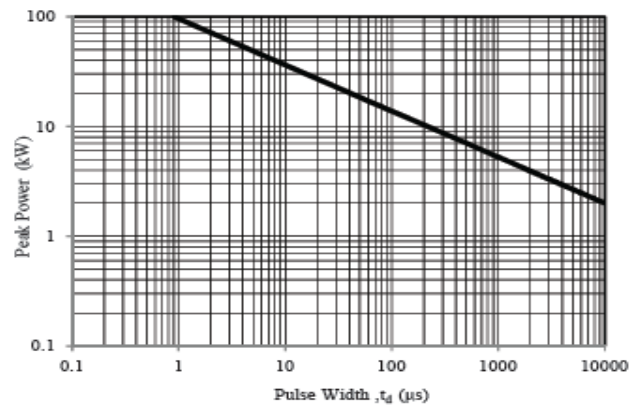


Fig. 4 - Peak Pulse Power Rating Curve

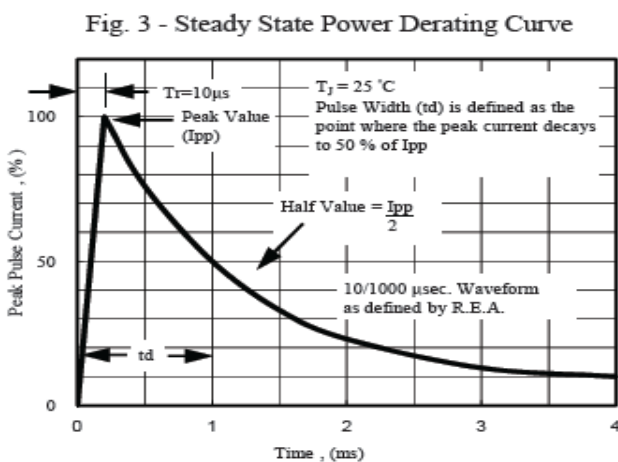


Fig. 5 - Pulse Waveform

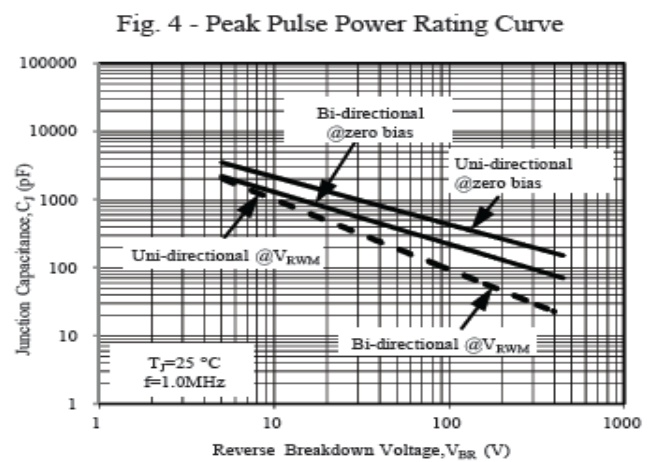
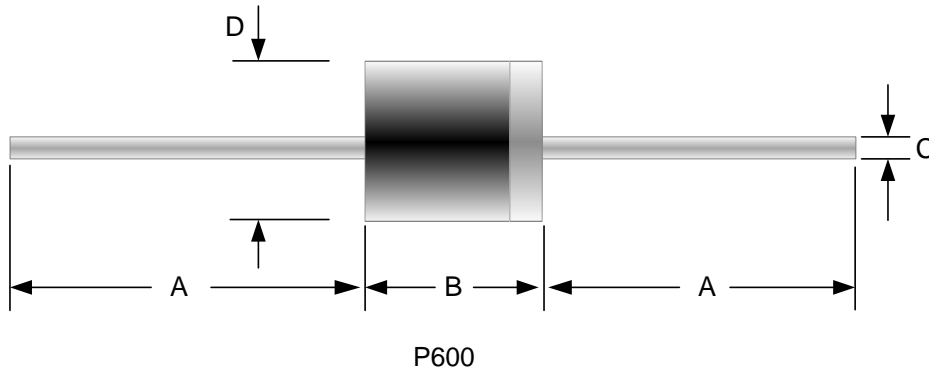


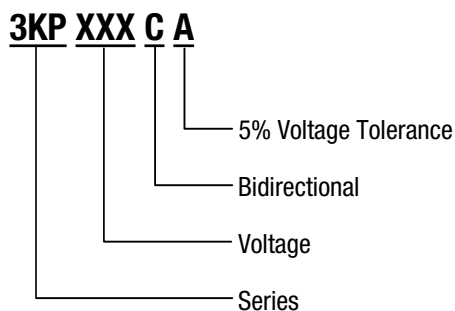
Fig. 6 - Typical Junction Capacitance

Package Outline Dimension

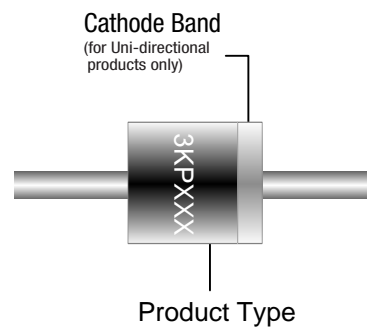


Ref. (mm)	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	1.000	-	25.40	-
B	0.340	0.360	8.60	9.10
C	0.048	0.052	1.20	1.30
D	0.340	0.360	8.60	9.10

Part Numbering System



Part Marking System



Package Information

Qty: 800 /Tape and reel
100 /Bulk