

## Features

- Glass passivated chip
- 5000 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 <sup>(1)</sup>	$P_{PP}$	5000	W
Peak pulse current with a 10/1000 us waveform <sup>(1)</sup>	$I_{PP}$	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 <sup>(2)</sup>	$I_{FSM}$	400	A
Maximum instantaneous forward voltage at 50 A for unidirectional only <sup>(3)</sup>	$V_F$	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  $V_{BR} > 201\text{V}$ .

## 5KP Series 5000Watts Transient Voltage Suppressor

### Electrical Characteristics

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 $I_R@V_{RWM}$ ( $\mu$ A)
			MIN	MAX				
UNI-POLAR	BI-POLAR							
5KP5.0A	5KP5.0CA	5.0	6.40	7.00	10	9.2	543.5	800
5KP6.0A	5KP6.0CA	6.0	6.67	7.37	10	10.3	485.5	800
5KP6.5A	5KP6.5CA	6.5	7.22	7.98	10	11.2	446.5	500
5KP7.0A	5KP7.0CA	7.0	7.78	8.60	10	12.0	416.5	200
5KP7.5A	5KP7.5CA	7.5	8.33	9.21	1	12.9	387.7	100
5KP8.0A	5KP8.0CA	8.0	8.89	9.83	1	13.6	367.7	50
5KP8.5A	5KP8.5CA	8.5	9.44	10.40	1	14.4	347.2	20
5KP9.0A	5KP9.0CA	9.0	10.00	11.10	1	15.4	324.7	10
5KP10A	5KP10CA	10.0	11.10	12.30	1	17.0	294.2	800
5KP11A	5KP11CA	11.0	12.20	13.50	1	18.2	274.7	800
5KP12A	5KP12CA	12.0	13.30	14.70	1	19.9	251.3	500
5KP13A	5KP13CA	13.0	14.40	15.90	1	21.5	232.5	200
5KP14A	5KP14CA	14.0	15.60	17.20	1	23.2	215.5	100
5KP15A	5KP15CA	15.0	16.70	18.50	1	24.4	205.0	50
5KP16A	5KP16CA	16.0	17.80	19.70	1	26.0	192.3	20
5KP17A	5KP17CA	17.0	18.90	20.90	1	27.6	181.2	10
5KP18A	5KP18CA	18.0	20.00	22.10	1	29.2	171.2	5
5KP20A	5KP20CA	20.0	22.20	24.50	1	32.4	154.3	5
5KP22A	5KP22CA	22.0	24.40	26.90	1	35.5	140.8	5
5KP24A	5KP24CA	24.0	26.70	29.50	1	38.9	128.5	5
5KP26A	5KP26CA	26.0	28.90	31.90	1	42.1	118.8	5
5KP28A	5KP28CA	28.0	31.10	34.40	1	45.4	110.2	5
5KP30A	5KP30CA	30.0	33.50	36.80	1	48.4	103.3	5
5KP33A	5KP33CA	33.0	36.70	40.60	1	53.3	93.8	5
5KP36A	5KP36CA	36.0	40.00	44.20	1	58.1	86.0	5
5KP40A	5KP40CA	40.0	44.40	49.10	1	64.5	77.5	5
5KP43A	5KP43CA	43.0	47.80	52.80	1	69.4	72.0	5
5KP45A	5KP45CA	45.0	50.00	55.30	1	72.7	68.8	5
5KP48A	5KP48CA	48.0	53.30	58.90	1	77.4	64.7	5
5KP51A	5KP51CA	51.0	56.70	62.70	1	82.4	60.7	5
5KP54A	5KP54CA	54.0	60.00	66.30	1	87.1	57.3	5
5KP58A	5KP58CA	58.0	64.40	71.20	1	93.6	53.5	5
5KP60A	5KP60CA	60.0	66.70	73.70	1	96.8	51.7	5
5KP64A	5KP64CA	64.0	71.10	78.60	1	103.0	48.5	5
5KP70A	5KP70CA	70.0	77.80	86.00	1	113.0	44.2	5
5KP75A	5KP75CA	75.0	83.30	92.10	1	121.0	41.3	5
5KP78A	5KP78CA	78.0	86.70	95.80	1	126.0	39.7	5

## 5KP Series 5000Watts Transient Voltage Suppressor

### Electrical Characteristics (continued)

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							
5KP85A	5KP85CA	85.0	94.40	104.00	1	137.0	36.5	5
5KP90A	5KP90CA	90.0	100.00	111.00	1	146.0	34.2	5
5KP100A	5KP100CA	100.0	111.00	123.00	1	162.0	30.8	5
5KP110A	5KP110CA	110.0	122.00	135.00	1	177.0	28.2	5
5KP120A	5KP120CA	120.0	133.00	147.00	1	193.0	25.8	5
5KP130A	5KP130CA	130.0	144.00	159.00	1	209.0	24.0	5
5KP150A	5KP150CA	150.0	167.00	185.00	1	243.0	20.5	5
5KP160A	5KP160CA	160.0	178.00	197.00	1	259.0	19.3	5
5KP170A	5KP170CA	170.0	189.00	209.00	1	275.0	18.2	5
5KP180A	5KP180CA	180.0	201.00	222.00	1	292.0	17.2	5
5KP190A	5KP190CA	190.0	209.00	243.00	1	308.0	16.2	5
5KP200A	5KP200CA	200.0	224.00	247.00	1	324.0	15.5	5
5KP210A	5KP210CA	210.0	231.00	268.00	1	340.0	14.7	5
5KP220A	5KP220CA	220.0	246.00	272.00	1	356.0	14.0	5
5KP250A	5KP250CA	250.0	279.00	309.00	1	405.0	12.3	5
5KP300A	5KP300CA	300.0	335.00	371.00	1	486.0	10.3	5
5KP350A	5KP350CA	350.0	391.00	432.00	1	567.0	8.8	5
5KP400A	5KP400CA	400.0	447.00	494.00	1	648.0	7.7	5
5KP440A	5KP440CA	440.0	492.00	543.00	1	713.0	7.0	5

# 5KP Series 5000Watts Transient Voltage Suppressor

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

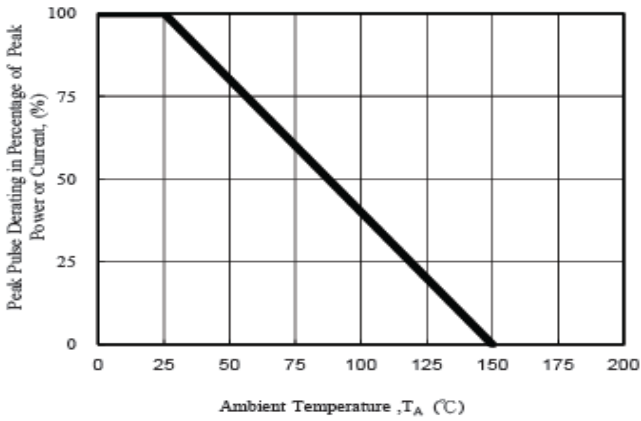


Fig. 1 - Pulse Derating Curve

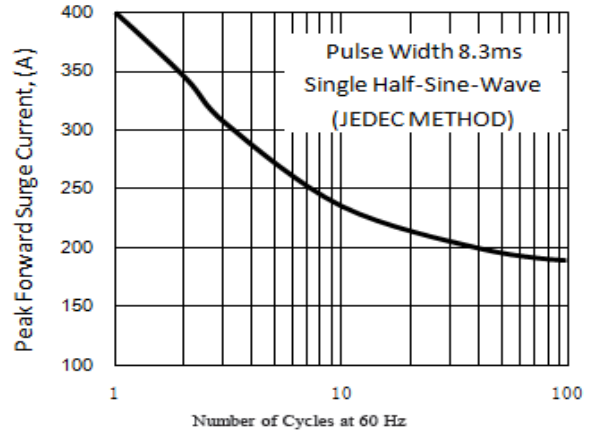


Fig. 2 - Maximum Non-Repetitive Surge Current

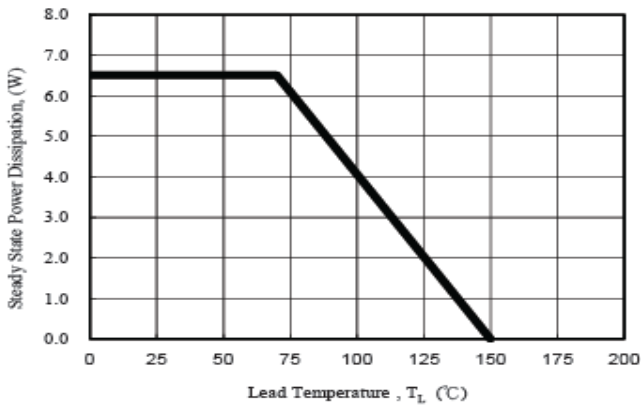


Fig. 3 - Steady State Power Derating Curve

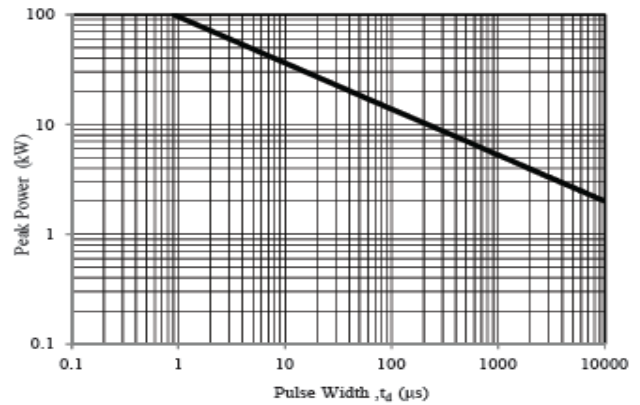


Fig. 4 - Peak Pulse Power Rating Curve

Fig. 3 - Steady State Power Derating Curve

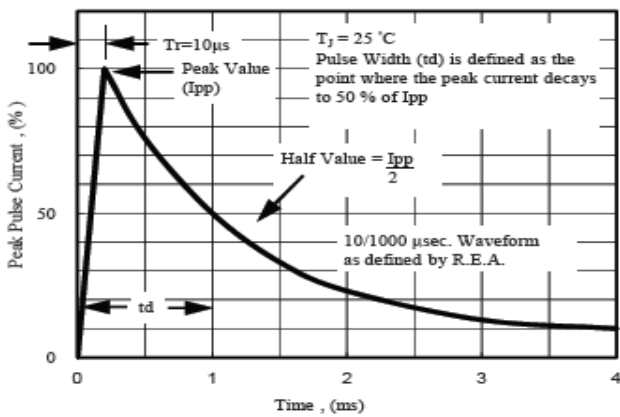


Fig. 5 - Pulse Waveform

Fig. 4 - Peak Pulse Power Rating Curve

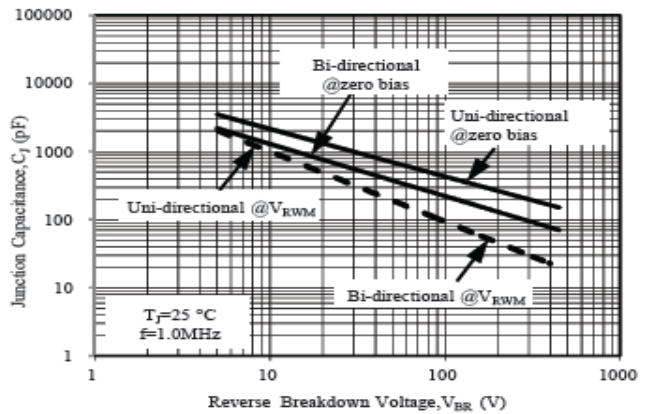
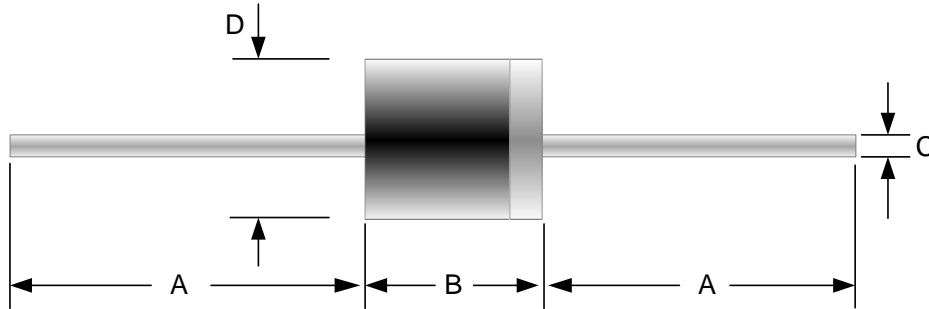


Fig. 6 - Typical Junction Capacitance

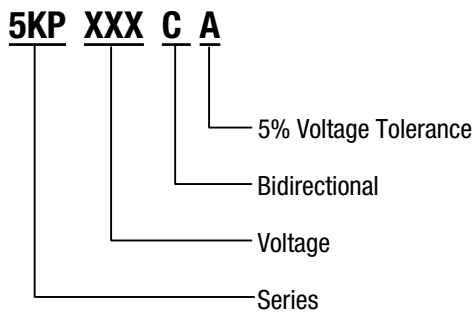
### Package Outline Dimension



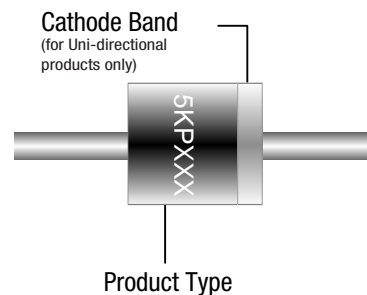
**P600**

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	1.20	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