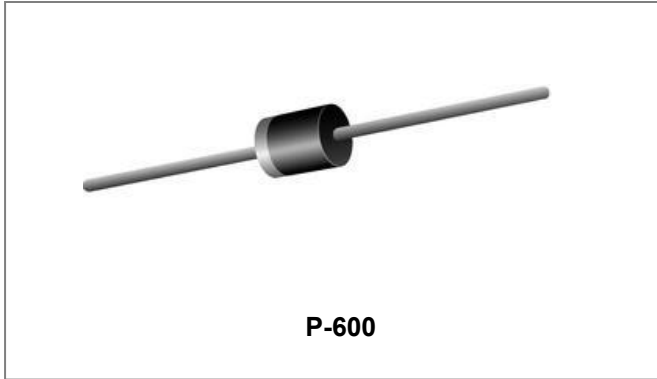


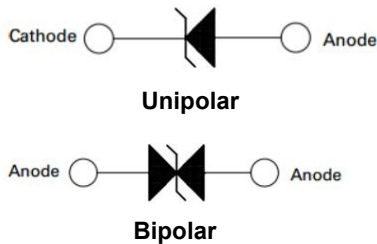
## 5KP SERIES GLASS PASSIVATED TRANSIENT VOLTAGE SUPPRESSOR



### Features

- Glass Passivated Die Construction
- 5000W Peak Pulse Power Dissipation
- 5.0V- 110V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- This is a Pb – Free Device
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: JEDEC P-600 Molded Plastic
- Terminals: Axial leads , Solderable per MIL-STD 750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Mounting Position: Any
- Weight:2.1 grams(approx.)

### Maximum Ratings and Thermal Characteristics@ $T_A=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at $T_A=25^\circ\text{C}$ (Fig.1)(Note 1, 2, 5)	$P_{PPM}$	5000	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave(Note 3)	$I_{FSM}$	400	A
Steady State Power Dissipation (Note 2, 4)	$P_{M(AV)}$	8.0	W
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	8.0	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	40	$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to 175	$^\circ\text{C}$

- Notes:**
1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A = 25^\circ\text{C}$  per Fig. 2.
  2. Mounted on 20mm<sup>2</sup> copper pads.
  3. 8.3ms single half sine wave, duty cycle=4 pulses per minute maximum.
  4. Lead temperature at  $75^\circ\text{C}=T_L$
  5. Peak pulse power waveform is 10x1000 $\mu\text{s}$

**Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified**

UNI-POLAR	REVERSE STAND-OFF VOLTAGE V <sub>RWM</sub> (V)	BREAKDOWN VOLTAGE V <sub>BR</sub> (V) MIN. @I <sub>T</sub>	BREAKDOWN VOLTAGE V <sub>BR</sub> (V) MAX. @I <sub>T</sub>	TEST CURRENT I <sub>T</sub> (mA)	MAXMUM CLAMPING VOLTAGE @I <sub>PP</sub> V <sub>C</sub> (V)	PEAK PULSE CURRENT I <sub>PP</sub> (A)	REVERSE LEAKAGE @V <sub>RWM</sub> I <sub>R</sub> (uA)
5KP5.0A	5	6.4	7	50	9.2	544	2000
5KP6.0A	6	6.67	7.37	50	10.3	486	5000
5KP6.5A	6.5	7.22	7.98	50	11.2	447	2000
5KP7.0A	7	7.78	8.6	50	12	417	1000
5KP7.5A	7.5	8.33	9.21	5	12.9	388	250
5KP8.0A	8	8.89	9.83	5	13.6	368	150
5KP8.5A	8.5	9.44	10.4	5	14.4	348	50
5KP9.0A	9	10	11.1	5	15.4	325	20
5KP10A	10	11.1	12.3	5	17	295	10
5KP11A	11	12.2	13.5	5	18.2	275	10
5KP12A	12	13.3	14.7	5	19.9	252	10
5KP13A	13	14.4	15.9	5	21.5	233	10
5KP14A	14	15.6	17.2	5	23.2	216	10
5KP15A	15	16.7	18.5	5	24.4	205	10
5KP16A	16	17.8	19.7	5	26	193	10
5KP17A	17	18.9	20.9	5	27.6	181	10
5KP18A	18	20	22.1	5	29.2	172	10
5KP20A	20	22.2	24.5	5	32.4	154	10
5KP22A	22	24.4	26.9	5	35.5	141	10
5KP24A	24	26.7	29.5	5	38.9	129	10
5KP26A	26	28.9	31.9	5	42.1	119	10
5KP28A	28	31.1	34.4	5	45.4	110	10
5KP30A	30	33.3	36.8	5	48.4	103	10
5KP33A	33	36.7	40.6	5	53.3	93.9	10
5KP36A	36	40	44.2	5	58.1	86.1	10
5KP40A	40	44.4	49.1	5	64.5	77.6	10
5KP43A	43	47.8	52.8	5	69.4	72.1	10
5KP45A	45	50	55.3	5	72.7	68.8	10
5KP48A	48	53.3	58.9	5	77.4	64.7	10
5KP51A	51	56.7	62.7	5	82.4	60.7	10
5KP54A	54	60	66.3	5	87.1	57.5	10
5KP58A	58	64.4	71.2	5	93.6	53.5	10
5KP60A	60	66.7	73.7	5	96.8	51.7	10
5KP64A	64	71.1	78.6	5	103	48.6	10
5KP70A	70	77.8	86	5	113	44.3	10
5KP75A	75	83.3	92.1	5	121	41.4	10
5KP78A	78	86.7	95.8	5	126	39.7	10
5KP85A	85	94.4	104	5	137	36.5	10
5KP90A	90	100	111	5	146	34.3	10
5KP100A	100	111	123	5	162	30.9	10
5KP110A	110	122	135	5	177	28.3	10

For bidirectional type having VR of 10 volts and less, the IR limit is double.  
For parts without A , the VBR is + 10% and VC is 5% higher than with A parts.

BI-POLAR	REVERSE STAND-OFF VOLTAGE $V_{RWM}$ (V)	BREAKDOWN VOLTAGE $V_{BR}$ (V) MIN. @ $I_T$	BREAKDOWN VOLTAGE $V_{BR}$ (V) MAX. @ $I_T$	TEST CURRENT $I_T$ (mA)	MAXIMUM CLAMPING VOLTAGE @ $I_{PP}$ $V_C$ (V)	PEAK PULSE CURRENT $I_{PP}$ (A)	REVERSE LEAKAGE @ $V_{RWM}$ $I_R$ (uA)
5KP5.0CA	5	6.4	7	50	9.2	544	4000
5KP6.0CA	6	6.67	7.37	50	10.3	486	10000
5KP6.5CA	6.5	7.22	7.98	50	11.2	447	4000
5KP7.0CA	7	7.78	8.6	50	12	417	2000
5KP7.5CA	7.5	8.33	9.21	5	12.9	388	500
5KP8.0CA	8	8.89	9.83	5	13.6	368	300
5KP8.5CA	8.5	9.44	10.4	5	14.4	348	100
5KP9.0CA	9	10	11.1	5	15.4	325	40
5KP10CA	10	11.1	12.3	5	17	295	10
5KP11CA	11	12.2	13.5	5	18.2	275	10
5KP12CA	12	13.3	14.7	5	19.9	252	10
5KP13CA	13	14.4	15.9	5	21.5	233	10
5KP14CA	14	15.6	17.2	5	23.2	216	10
5KP15CA	15	16.7	18.5	5	24.4	205	10
5KP16CA	16	17.8	19.7	5	26	193	10
5KP17CA	17	18.9	20.9	5	27.6	181	10
5KP18CA	18	20	22.1	5	29.2	172	10
5KP20CA	20	22.2	24.5	5	32.4	154	10
5KP22CA	22	24.4	26.9	5	35.5	141	10
5KP24CA	24	26.7	29.5	5	38.9	129	10
5KP26CA	26	28.9	31.9	5	42.1	119	10
5KP28CA	28	31.1	34.4	5	45.4	110	10
5KP30CA	30	33.3	36.8	5	48.4	103	10
5KP33CA	33	36.7	40.6	5	53.3	93.9	10
5KP36CA	36	40	44.2	5	58.1	86.1	10
5KP40CA	40	44.4	49.1	5	64.5	77.6	10
5KP43CA	43	47.8	52.8	5	69.4	72.1	10
5KP45CA	45	50	55.3	5	72.7	68.8	10
5KP48CA	48	53.3	58.9	5	77.4	64.7	10
5KP51CA	51	56.7	62.7	5	82.4	60.7	10
5KP54CA	54	60	66.3	5	87.1	57.5	10
5KP58CA	58	64.4	71.2	5	93.6	53.5	10
5KP60CA	60	66.7	73.7	5	96.8	51.7	10
5KP64CA	64	71.1	78.6	5	103	48.6	10
5KP70CA	70	77.8	86	5	113	44.3	10
5KP75CA	75	83.3	92.1	5	121	41.4	10
5KP78CA	78	86.7	95.8	5	126	39.7	10
5KP85CA	85	94.4	104	5	137	36.5	10
5KP90CA	90	100	111	5	146	34.3	10
5KP100CA	100	111	123	5	162	30.9	10
5KP110CA	110	122	135	5	177	28.3	10

For bidirectional type having VR of 10 volts and less, the IR limit is double.  
For parts without A , the VBR is + 10% and VC is 5% higher than with A parts.

**Ratings and Characteristics Curves**

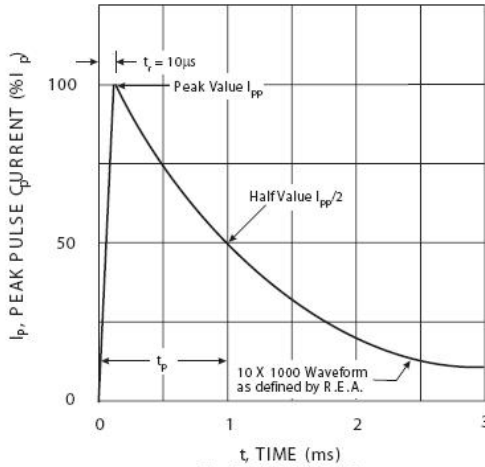


Fig. 1 Pulse Waveform

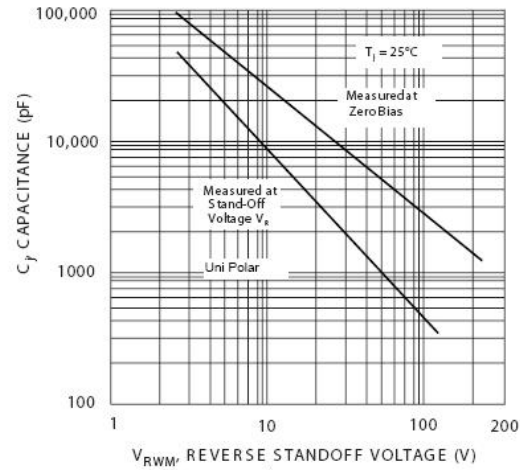


Fig. 2 Typical Junction Capacitance

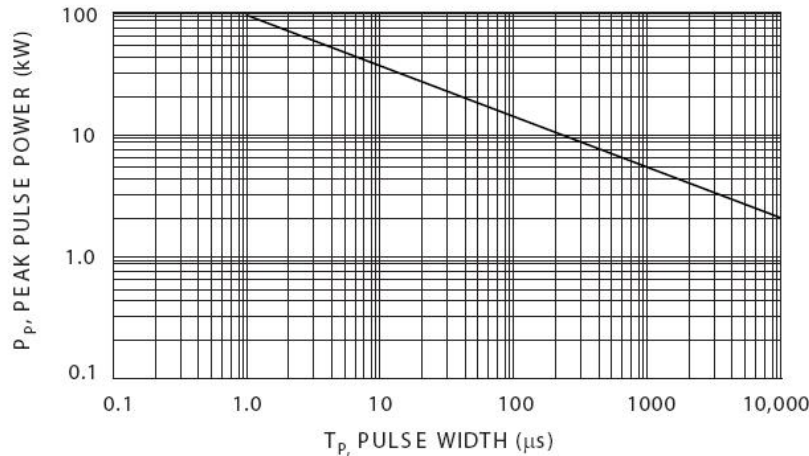


Fig. 3 Pulse Derating Curve

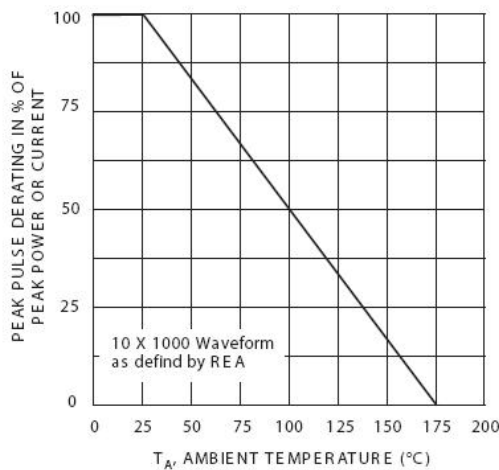


Fig. 4 Pulse Derating Curve

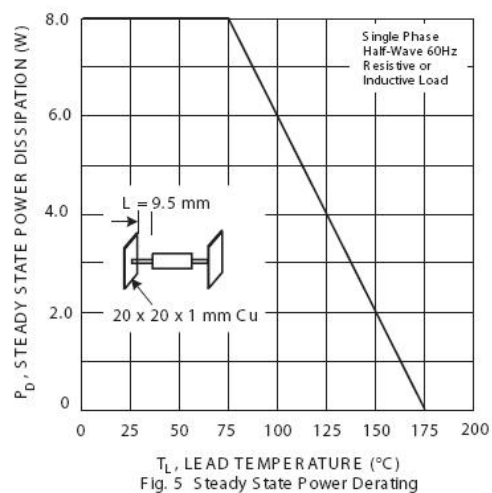
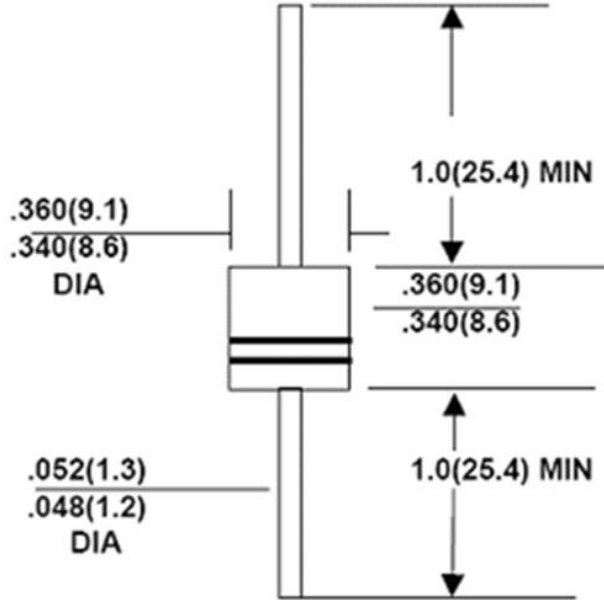


Fig. 5 Steady State Power Derating

**Mechanical Dimensions P-600(Inches/Millimeters)**

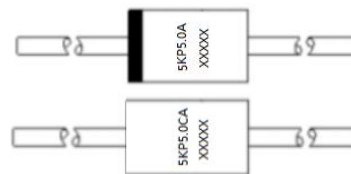


**Ordering Information**

Device	Package	Shipping
5KP SERIES	P-600(Pb-Free)	800pcs /Reel
5KP SERIES TR	P-600(Pb-Free)	800pcs /Reel
5KP SERIES	P-600(Pb-Free)	300pcs /Tape
5KP SERIES TA	P-600(Pb-Free)	300pcs /Tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**

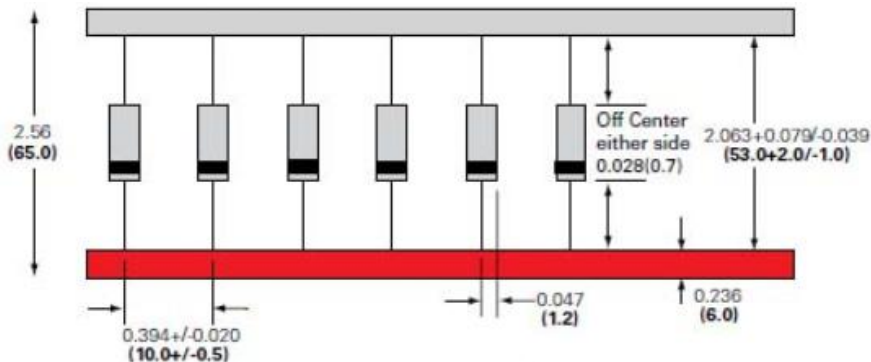


Where XXXXX is YYWWL

5KP5.0A/5KP5.0CA = Part Name  
YY = Year  
WW = Week  
L = Lot Number

Cautions: Molding resin  
Epoxy resin UL:94V-0

**Carrier Tape Specification P-600**



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