



# DATA SHEET

## 5KP SERIES

### GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

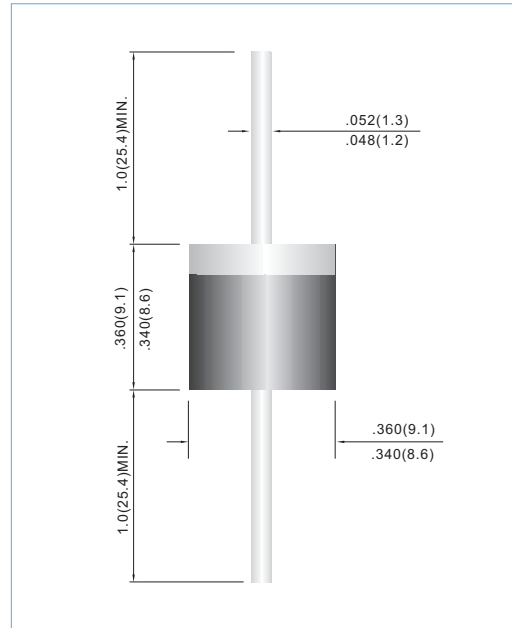
**VOLTAGE** 5.0 to 220 Volts **PEAK PULSE POWER** 5000 Watts **P-600** Unit: inch(mm)

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- 5000W Peak Pulse Power capability at on 10/1000µs waveform
- Excellent clamping capability
- Low zener impedance
- Repetition rate(Duty Cycle):.05%
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- Typical IR less than 1µA above 10V

#### MECHANICAL DATA

Case: JEDEC P-600 molded plastic  
 Terminals: Axial leads, solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denoted cathode except Bipolar  
 Mounting Position: Any  
 Weight: 0.07 ounce, 2.1 gram



#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 5KP5.0 thru types 5KP220  
 Electrical characteristics apply in both directions.

#### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.  
 For Capacitive load derate current by 20%.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A = 25^\circ\text{C}$ , $T_P = 1\text{ms}$ (Note 1)	$P_{PK}$	5000	Watts
Steady State Power dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths .375", (95mm) (Note 2)	$P_D$	8.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	$I_{FSM}$	400	Amps
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +175	$^\circ\text{C}$

#### NOTES:

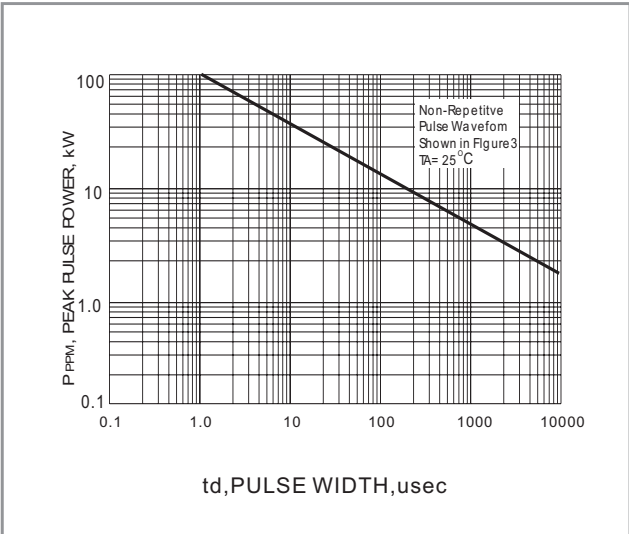
- 1.Non-repetitive current pulse, per Fig. 3 and derated above  $T_A = 25^\circ\text{C}$  per Fig. 2.
- 2.Mounted on Copper Leaf area of  $0.79\text{in}^2$ ( $20\text{mm}^2$ ).
- 3.8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.



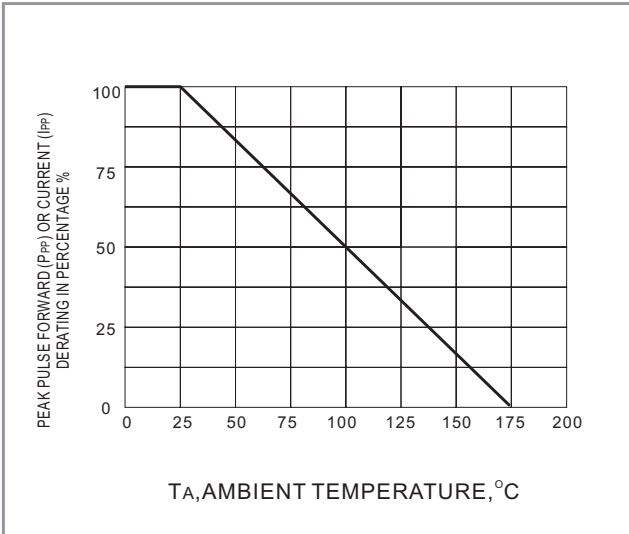
Part Number		V <sub>RWM</sub>	V <sub>BR</sub> @ I <sub>T</sub>			I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	
			Min.	Max.	I <sub>T</sub>	UNI-	BI-		
UNI-	BI-	V	V	V	mA	µA	µA	V	A
<b>5000W Transient Voltage Suppressor</b>									
5KP5.0	5KP5.0C	5.0	6.40	7.55	50	5000	10000	9.6	520
5KP5.0A	5KP5.0CA	5.0	6.40	7.25	50	5000	10000	9.2	543
5KP6.0	5KP6.0C	6.0	6.67	8.45	50	5000	10000	11.4	439
5KP6.0A	5KP6.0CA	6.0	6.67	7.67	50	5000	10000	10.3	485
5KP6.5	5KP6.5C	6.5	7.22	9.14	50	2000	4000	12.3	407
5KP6.5A	5KP6.5CA	6.5	7.22	8.30	50	2000	4000	11.2	447
5KP7.0	5KP7.0C	7.0	7.78	9.86	50	1000	2000	13.3	378
5KP7.0A	5KP7.0CA	7.0	7.78	8.95	50	1000	2000	12.0	417
5KP7.5	5KP7.5C	7.5	8.33	10.67	5.0	250	500	14.3	350
5KP7.5A	5KP7.5CA	7.5	8.33	9.58	5.0	250	500	12.9	388
5KP8.0	5KP8.0C	8.0	8.89	11.30	5.0	150	300	15.0	333
5KP8.0A	5KP8.0CA	8.0	8.89	10.23	5.0	150	300	13.6	367
5KP8.5	5KP8.5C	8.5	9.44	11.92	5.0	50	100	15.9	314
5KP8.5A	5KP8.5CA	8.5	9.44	10.82	5.0	50	100	14.4	347
5KP9.0	5KP9.0C	9.0	10.00	12.60	5.0	20	40	16.9	295
5KP9.0A	5KP9.0CA	9.0	10.00	11.50	5.0	20	40	15.4	325
5KP10	5KP10C	10	11.100	14.10	5.0	10	10	18.8	266
5KP10A	5KP10CA	10	11.10	12.80	5.0	10	10	17.0	294
5KP11	5KP11C	11	12.20	15.40	5.0	10	10	20.1	249
5KP11A	5KP11CA	11	12.20	14.00	5.0	10	10	18.2	274
5KP12	5KP12C	12	13.30	16.90	5.0	10	10	22.0	227
5KP12A	5KP12CA	12	13.30	15.30	5.0	10	10	19.9	251
5KP13	5KP13C	13	14.40	18.20	5.0	10	10	23.8	210
5KP13A	5KP13CA	13	14.40	16.50	5.0	10	10	21.5	232
5KP14	5KP14C	14	15.60	19.80	5.0	10	10	25.8	194
5KP14A	5KP14CA	14	15.60	17.90	5.0	10	10	23.2	215
5KP15	5KP15C	15	16.70	21.10	5.0	10	10	26.9	188
5KP15A	5KP15CA	15	16.70	19.20	5.0	10	10	24.4	206
5KP16	5KP16C	16	17.80	22.60	5.0	10	10	28.8	176
5KP16A	5KP16CA	16	17.80	20.50	5.0	10	10	26.0	192
5KP17	5KP17C	17	18.90	23.90	5.0	10	10	30.5	164
5KP17A	5KP17CA	17	18.90	21.70	5.0	10	10	27.6	181
5KP18	5KP18C	18	20.00	25.30	5.0	10	10	32.2	155
5KP18A	5KP18CA	18	20.00	23.30	5.0	10	10	29.2	172
5KP20	5KP20C	20	22.20	28.10	5.0	10	10	35.8	139
5KP20A	5KP20CA	20	22.20	25.50	5.0	10	10	32.4	154
5KP22	5KP22C	22	24.40	30.90	5.0	10	10	39.4	127
5KP22A	5KP22CA	22	24.40	28.00	5.0	10	10	35.5	141
5KP24	5KP24C	24	26.70	33.80	5.0	10	10	43.0	116
5KP24A	5KP24CA	24	26.70	30.70	5.0	10	10	38.9	128
5KP26	5KP26C	26	28.90	36.60	5.0	10	10	46.6	107
5KP26A	5KP26CA	26	28.90	33.20	5.0	10	10	42.1	119
5KP28	5KP28C	28	31.10	39.40	5.0	10	10	50.0	99
5KP28A	5KP28CA	28	31.10	35.80	5.0	10	10	45.4	110
5KP30	5KP30C	30	33.30	42.20	5.0	10	10	53.5	93
5KP30A	5KP30CA	30	33.30	38.30	5.0	10	10	48.4	103
5KP33	5KP33C	33	36.70	46.50	5.0	10	10	59.0	85
5KP33A	5KP33CA	33	36.70	42.20	5.0	10	10	53.3	94
5KP36	5KP36C	36	40.00	50.70	5.0	10	10	64.3	78
5KP36A	5KP36CA	36	40.00	46.00	5.0	10	10	58.1	85
5KP40	5KP40C	40	44.40	56.30	5.0	10	10	71.4	70
5KP40A	5KP40CA	40	44.40	51.10	5.0	10	10	64.5	78



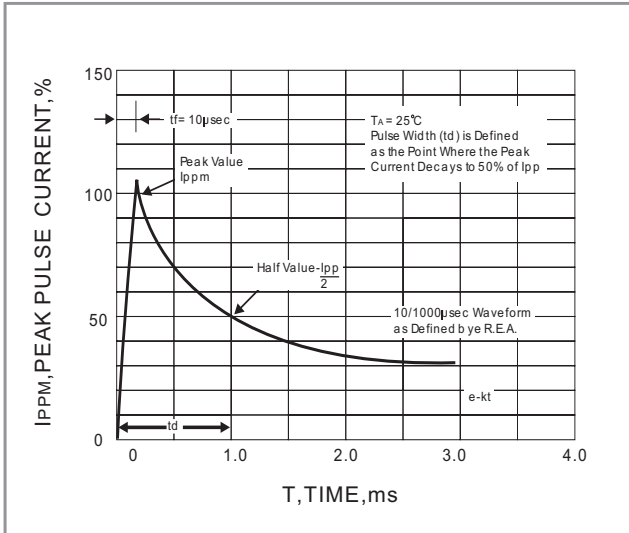
Part Number		V <sub>RWM</sub>	V <sub>BR</sub> @ I <sub>T</sub>			I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	
			Min.	Max.	I <sub>T</sub>	UNI-	BI-	V	A
UNI-	BI-	V	V	V	mA	uA	uA	V	A
<b>5000W Transient Voltage Suppressor</b>									
5KP43	5KP43C	43	47.80	60.50	5.0	10	10	76.7	65
5KP43A	5KP43CA	43	47.80	54.90	5.0	10	10	69.4	72
5KP45	5KP45C	45	50.00	63.30	5.0	10	10	80.3	62
5KP45A	5KP45CA	45	50.00	57.50	5.0	10	10	72.7	69
5KP48	5KP48C	48	53.30	67.50	5.0	10	10	85.5	58
5KP48A	5KP48CA	48	53.30	61.30	5.0	10	10	77.4	65
5KP51	5KP51C	51	56.70	71.80	5.0	10	10	91.1	55
5KP51A	5KP51CA	51	56.70	65.20	5.0	10	10	82.4	61
5KP54	5KP54C	54	60.00	76.00	5.0	10	10	96.3	52
5KP54A	5KP54CA	54	60.00	69.00	5.0	10	10	87.1	57
5KP58	5KP58C	58	64.40	81.60	5.0	10	10	103	49
5KP58A	5KP58CA	58	64.40	74.10	5.0	10	10	93.6	53
5KP60	5KP60C	60	66.70	84.50	5.0	10	10	107	47
5KP60A	5KP60CA	60	66.70	76.70	5.0	10	10	96.8	52
5KP64	5KP64C	64	71.10	90.10	5.0	10	10	114	44
5KP64A	5KP64CA	64	71.10	81.80	5.0	10	10	103	49
5KP70	5KP70C	70	77.80	98.60	5.0	10	10	125	40
5KP70A	5KP70CA	70	77.80	89.50	5.0	10	10	113	44
5KP75	5KP75C	75	83.30	105.7	5.0	10	10	134	37
5KP75A	5KP75CA	75	83.30	95.80	5.0	10	10	121	41
5KP78	5KP78C	78	86.70	109.8	5.0	10	10	139	36
5KP78A	5KP78CA	78	86.70	99.7	5.0	10	10	126	40
5KP85	5KP85C	85	94.40	119.2	5.0	10	10	151	33
5KP85A	5KP85CA	85	94.40	108.2	5.0	10	10	137	36
5KP90	5KP90C	90	100	126.5	5.0	10	10	160	31
5KP90A	5KP90CA	90	100	115.5	5.0	10	10	146	34
5KP100	5KP100C	100	111	141.0	5.0	10	10	179	28
5KP100A	5KP100CA	100	111	128.0	5.0	10	10	162	31
5KP110	5KP110C	110	122	154.5	5.0	10	10	196	26
5KP110A	5KP110CA	110	122	140.5	5.0	10	10	177	28
5KP120	5KP120C	120	133	169.0	5.0	10	10	214	23
5KP120A	5KP120CA	120	133	153.0	5.0	10	10	193	20
5KP130	5KP130C	130	144	182.5	5.0	10	10	231	22
5KP130A	5KP130CA	130	144	165.5	5.0	10	10	209	24
5KP150	5KP150C	150	167	211.5	5.0	10	10	268	19
5KP150A	5KP150CA	150	167	192.5	5.0	10	10	243	21
5KP160	5KP160C	160	178	226.0	5.0	10	10	287	17
5KP160A	5KP160CA	160	178	205.0	5.0	10	10	259	19
5KP170	5KP170C	170	189	239.5	5.0	10	10	304	16
5KP170A	5KP170CA	170	189	217.5	5.0	10	10	275	18
5KP180	5KP180C	180	198	253.8	1.0	10	10	322	16
5KP180A	5KP180CA	180	198	230.4	1.0	10	10	292	17
5KP190	5KP190C	190	209	267.9	1.0	10	10	340	15
5KP190A	5KP190CA	190	209	243.2	1.0	10	10	308	16
5KP200	5KP200C	200	220	282.0	1.0	10	10	358	14
5KP200A	5KP200CA	200	220	256.0	1.0	10	10	324	15
5KP210	5KP210C	210	231	296.1	1.0	10	10	376	13
5KP210A	5KP210CA	210	231	268.8	1.0	10	10	340	15
5KP220	5KP220C	220	242	310.2	1.0	10	10	394	13
5KP220A	5KP220CA	220	242	281.6	1.0	10	10	356	14



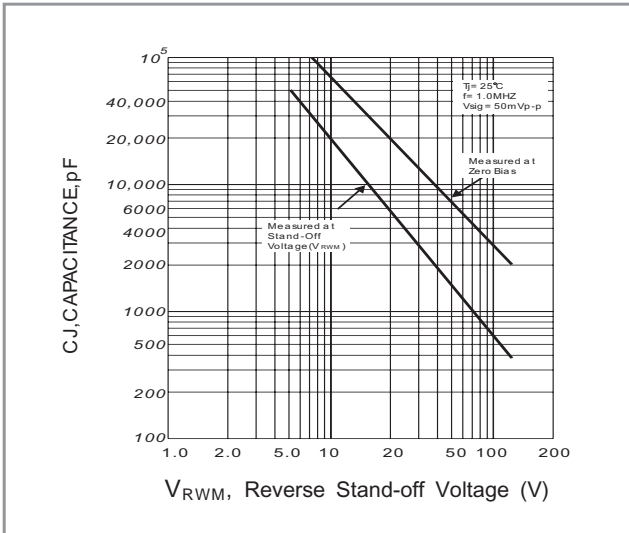
**Fig.1 PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE**



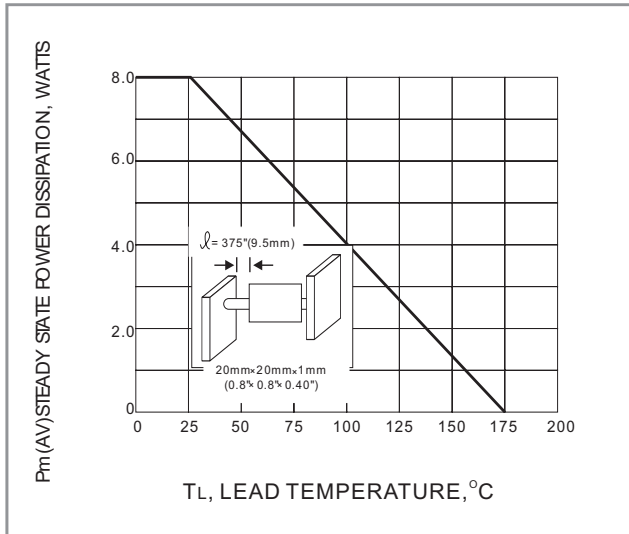
**Fig.2 PULSE DERATING CURVE**



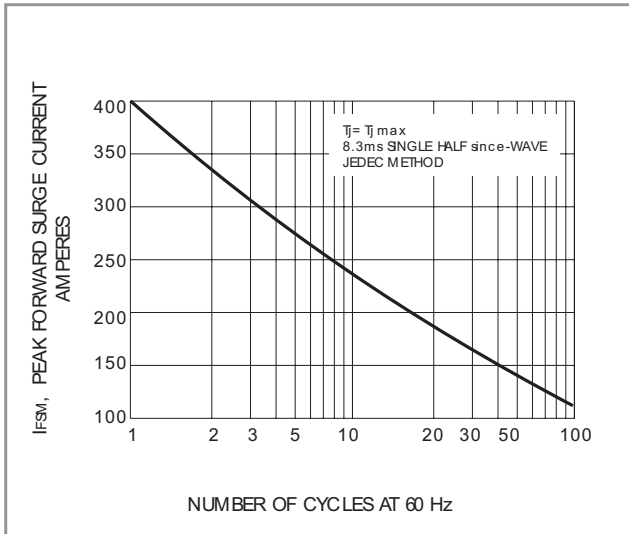
**Fig.3 PULSE WAVEFORM**



**Fig.4 TYPICAL JUNCTION CAPACITANCE**



**Fig.5 STEADY STATE POWER DERATING CURVE**



**Fig.6 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL**