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5KP5.0C SERIES

BI-DIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR

V_{BR} : 5.0 - 180 Volts
P_{PK} : 5000 Watts

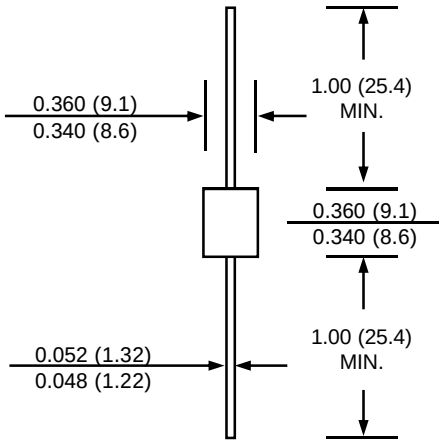
FEATURES :

* 5000W Peak Pulse Power
* Excellent clamping capability
* Low incremental surge resistance
* Fast response time : typically less then 1.0 ps from 0 volt to $V_{BR(min.)}$
* Typical I_R less then 1μA above 10V
* Pb / RoHS Free

MECHANICAL DATA

* Case : Void-free molded plastic body
* Epoxy : UL94V-O rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 2.1 grams

D6



Dimensions in inches and (millimeters)

DEVICES FOR UNIPOLAR APPLICATIONS

For uni-directional without "C"
Electrical characteristics apply in both directions

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation at tp = 1ms (Note 1, Fig. 4)	P_{PK}	Minimum 5000	W
Steady State Power Dissipation at T_L = 75 °C Lead Lengths 0.375", (9.5mm) (Note 2)	P_D	8.0	W
Operating and Storage Temperature Range	T_J, T_{STG}	- 55 to + 150	°C

Notes :

(1) Non-repetitive Current pulse, per Fig. 2 and derated above Ta = 25 °C per Fig. 1
(2) Mounted on Copper Leaf area of 0.79 in^2 (20mm^2).

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

Type	Breakdown Voltage @ I_T (Note 1)			Reverse Stand off Voltage	Maximum Reverse Leakage @ V_{RM}	Maximum Peak Pulse Current (Note2)	Maximum Clamping Voltage @ I_{PPM}	Maximum Temperature Coefficient of V_{BR}
	V_{BR} (V)		I_T	V_{RM}	I_R	I_{PPM}	V_C	
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	(%/°C)
5KP5.0C	6.40	7.30	50	5.0	10000	520	9.60	0.057
5KP5.0CA	6.40	7.00	50	5.0	10000	543	9.20	0.057
5KP6.0C	6.67	8.15	50	6.0	10000	439	11.4	0.061
5KP6.0CA	6.67	7.37	50	6.0	10000	485	10.3	0.061
5KP6.5C	7.22	8.82	50	6.5	4000	407	12.3	0.065
5KP6.5CA	7.22	7.98	50	6.5	4000	447	11.2	0.065
5KP7.0C	7.78	9.51	50	7.0	2000	378	13.3	0.068
5KP7.0CA	7.78	8.60	50	7.0	2000	417	12.0	0.068
5KP7.5C	8.33	10.2	5.0	7.5	500	350	14.3	0.073
5KP7.5CA	8.33	9.21	5.0	7.5	500	388	12.9	0.073
5KP8.0C	8.89	10.9	5.0	8.0	300	333	15.0	0.075
5KP8.0CA	8.89	9.83	5.0	8.0	300	367	13.6	0.075
5KP8.5C	9.44	11.5	5.0	8.5	100	314	15.9	0.078
5KP8.5CA	9.44	10.4	5.0	8.5	100	347	14.4	0.078
5KP9.0C	10.0	12.2	5.0	9.0	40	295	16.9	0.081
5KP9.0CA	10.0	11.1	5.0	9.0	40	325	15.4	0.081
5KP10C	11.1	13.6	5.0	10	30	266	18.8	0.084
5KP10CA	11.1	12.3	5.0	10	30	294	17.0	0.084
5KP11C	12.2	14.9	5.0	11	10	249	20.1	0.086
5KP11CA	12.2	13.5	5.0	11	10	274	18.2	0.086
5KP12C	13.3	16.3	5.0	12	10	227	22.0	0.088
5KP12CA	13.3	14.7	5.0	12	10	251	19.9	0.088
5KP13C	14.4	17.6	5.0	13	10	210	23.8	0.090
5KP13CA	14.4	15.9	5.0	13	10	232	21.5	0.090
5KP14C	15.6	19.1	5.0	14	10	194	25.8	0.092
5KP14CA	15.6	17.2	5.0	14	10	215	23.2	0.092
5KP15C	16.7	20.4	5.0	15	10	188	26.9	0.094
5KP15CA	16.7	18.5	5.0	15	10	206	24.4	0.094
5KP16C	17.8	21.8	5.0	16	10	176	28.8	0.096
5KP16CA	17.8	19.7	5.0	16	10	192	26.0	0.096
5KP17C	18.9	23.1	5.0	17	10	164	30.5	0.097
5KP17CA	18.9	20.9	5.0	17	10	181	27.6	0.097
5KP18C	20.0	24.4	5.0	18	10	155	32.2	0.098
5KP18CA	20.0	22.1	5.0	18	10	172	29.2	0.098
5KP20C	22.2	27.1	5.0	20	10	139	35.8	0.099
5KP20CA	22.2	24.5	5.0	20	10	154	32.4	0.099
5KP22C	24.4	29.8	5.0	22	10	127	39.4	0.100
5KP22CA	24.4	26.9	5.0	22	10	141	35.5	0.100
5KP24C	26.7	32.6	5.0	24	10	116	43.0	0.101
5KP24CA	26.7	29.5	5.0	24	10	128	38.9	0.101
5KP26C	28.9	35.3	5.0	26	10	107	46.6	0.101
5KP26CA	28.9	31.9	5.0	26	10	119	42.1	0.101
5KP27A	30.0	36.6	5.0	27	10	102	49.0	0.102
5KP27CA	30.0	33.3	5.0	27	10	112	44.6	0.102
5KP28C	31.1	38.0	5.0	28	10	99	50.1	0.102
5KP28CA	31.1	34.4	5.0	28	10	110	45.4	0.102
5KP30C	33.3	40.7	5.0	30	10	93	53.5	0.103
5KP30CA	33.3	36.8	5.0	30	10	103	48.4	0.103

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

Type	Breakdown Voltage @ I_T (Note 1)			Reverse Stand off Voltage	Maximum Reverse Leakage @ V_{RM}	Maximum Peak Pulse Current (Note2)	Maximum Clamping Voltage @ I_{PPM}	Maximum Temperature Coefficient of V_{BR}
	V_{BR} (V)		I_T	V_{RM}	I_R	I_{PPM}	V_C	
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	(%/°C)
5KP33C	36.7	44.9	5.0	33	10	85	59.0	0.104
5KP33CA	36.7	40.6	5.0	33	10	94	53.3	0.104
5KP36C	40.0	48.9	5.0	36	10	78	64.3	0.104
5KP36CA	40.0	44.2	5.0	36	10	86	58.1	0.104
5KP40C	44.4	54.3	5.0	40	10	70	71.4	0.105
5KP40CA	44.4	49.1	5.0	40	10	78	64.5	0.105
5KP43C	47.8	58.4	5.0	43	10	65	76.7	0.105
5KP43CA	47.8	52.8	5.0	43	10	72	69.4	0.105
5KP45C	50.0	61.1	5.0	45	10	62	80.3	0.106
5KP45CA	50.0	55.3	5.0	45	10	69	72.7	0.106
5KP48C	53.3	65.2	5.0	48	10	58	85.5	0.106
5KP48CA	53.3	58.9	5.0	48	10	65	77.4	0.106
5KP51C	56.7	69.3	5.0	51	10	55	91.1	0.107
5KP51CA	56.7	62.7	5.0	51	10	61	82.4	0.107
5KP54C	60.0	73.3	5.0	54	10	52	96.3	0.107
5KP54CA	60.0	66.3	5.0	54	10	57	87.1	0.107
5KP58C	64.4	78.7	5.0	58	10	49	103	0.107
5KP58CA	64.4	71.2	5.0	58	10	53	94	0.107
5KP60C	66.7	81.5	5.0	60	10	47	107	0.108
5KP60CA	66.7	73.7	5.0	60	10	52	97	0.108
5KP64C	71.1	96.9	5.0	64	10	44	114	0.108
5KP64CA	71.1	78.6	5.0	64	10	49	103	0.108
5KP70C	77.6	95.1	5.0	70	10	40	125	0.108
5KP70CA	77.6	86.0	5.0	70	10	44	113	0.108
5KP75C	83.3	102	5.0	75	10	37	134	0.108
5KP75CA	83.3	92.1	5.0	75	10	41	121	0.108
5KP78C	86.7	106	5.0	78	10	36	139	0.108
5KP78CA	86.7	95.8	5.0	78	10	40	126	0.108
5KP85C	94.4	115	5.0	85	10	33	151	0.108
5KP85CA	94.4	104	5.0	85	10	36	137	0.110
5KP90C	100	122	5.0	90	10	31	160	0.110
5KP90CA	100	111	5.0	90	10	34	146	0.110
5KP100C	111	136	5.0	100	10	28	179	0.110
5KP100CA	111	123	5.0	100	10	31	162	0.110
5KP110C	122	149	5.0	110	10	26	196	0.112
5KP110CA	122	135	5.0	110	10	28	177	0.112
5KP120C	133	163	5.0	120	10	24	211	0.112
5KP120CA	133	147	5.0	120	10	26	194	0.112
5KP150C	167	204	5.0	150	10	19	263	0.112
5KP150CA	167	184	5.0	150	10	21	242	0.112
5KP160C	178	217	5.0	160	10	18	281	0.114
5KP160CA	178	196	5.0	160	10	19	258	0.114
5KP170C	189	231	5.0	170	10	17	298	0.114
5KP170CA	189	209	5.0	170	10	18	274	0.114
5KP180C	200	244	5.0	180	10	16	316	0.114
5KP180CA	200	221	5.0	180	10	17	290	0.114

Note:

(1) V_{BR} measured after I_T applied for 300 μs., I_T = square wave pulse or equivalent.

RATING AND CHARACTERISTIC CURVES (5KP5.0C SERIES)

FIG.1 - PULSE DERATING CURVE

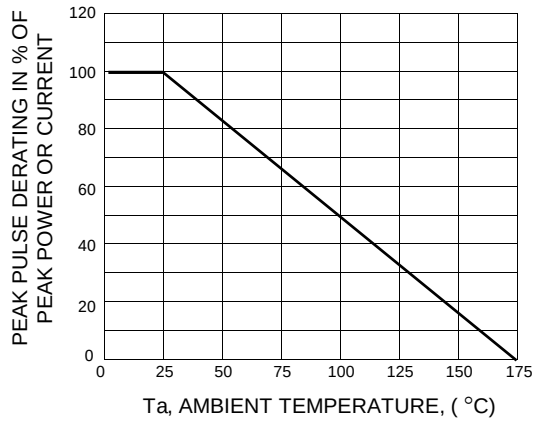


FIG.2 - PULSE WAVEFORM

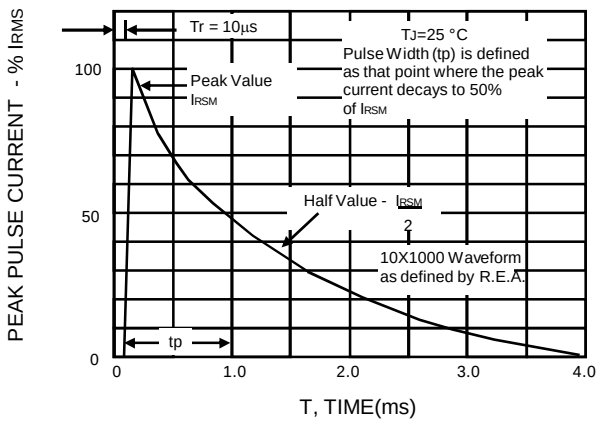


FIG.3 - STEADY STATE POWER DERATING

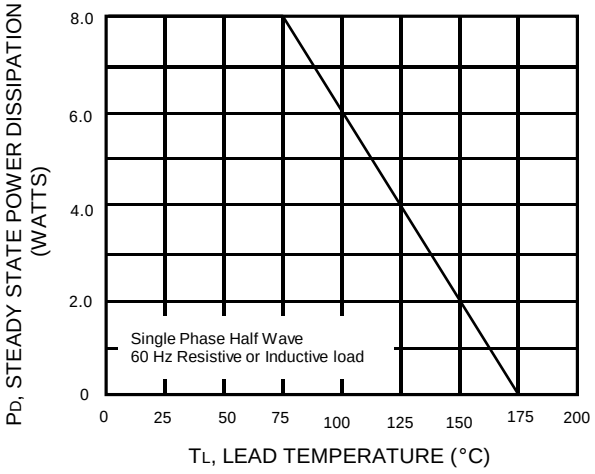
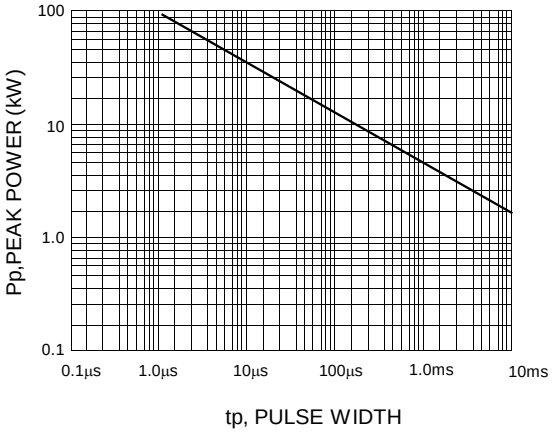
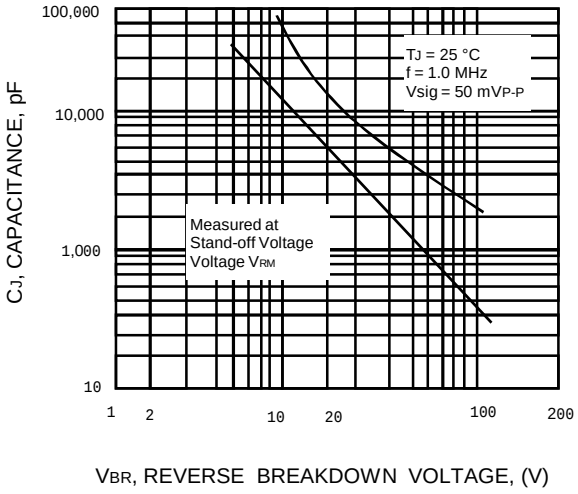


FIG.4 - PULSE RATING CURVE



RATING AND CHARACTERISTIC CURVES (5KP5.0C SERIES)

FIG.5 - TYPICAL JUNCTION CAPACITANCE



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1N5339B SZ2568 SZ3562 1N5954B 20HCC 2EZ8.2D5 30KP170 HVR520 SZ5562 SZ6582 2EZ4.3D5 FR606 MZ5954A SK33S SMBJ5385B SZ15B2 SZ558C 15HCB 1SMA4734A BZG05C3V3 SZ15B0 SZ256I 30KP400A MMBZ5247B SMAZ5V6 SZ457F 1N4746A MM3Z36B SMBJ5377B 30KP400CA