TRANSIENT VOLTAGE SUPPRESSOR

BREAKDOWN VOLTAGE: 5.0 - 220 V
PEAK PULSE POWER: 5000 W

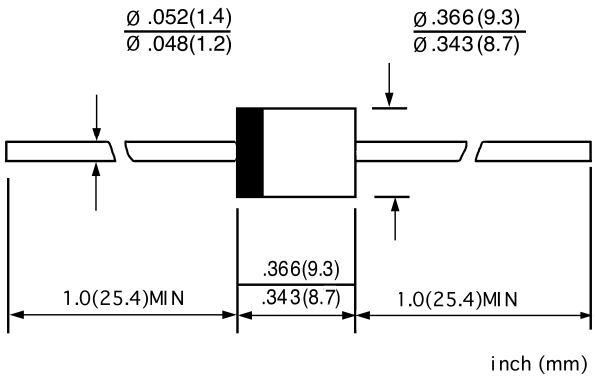
FEATURES

- ◇ Plastic package
- ◇ Glass passivated junction
- ◇ 5000W peak pulse power capability with a 10/1000μs waveform
- ◇ Excellent clamping capability
- ◇ Low incremental surge resistance
- ◇ Fast response time: typically less than 1.0ps from 0 Volts to BV
- ◇ Typical I_R less than 10μ A for $V_{(BR)} \geq 10V$
- ◇ High temperature soldering guaranteed:265 ℃/ 10 seconds, 0.375"(9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

- ◇ Case:JEDEC R-6, molded plastic
- ◇ Polarity: Color band denotes positive end (cathode) except bipola
- ◇ Weight: 0.07ounce, 2.1gram
- ◇ Mounting position: any

R-6



DEVICES FOR BIDIRECTIONAL APPLICATIONS

For bidirectional use C or CA suffix for types 5KP5.0 thru types 5KP220 (e.g. 5KP5.0C , 5KP220CA)
Electrical characteristics apply in both directions

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000μs waveform (NOTE 1, FIG.1)	P_{PPM}	Minimum 5000	W
Peak pulse current with a 10/1000μs waveform (NOTE 1)	I_{PPM}	SEE TABLE 1	A
Steady state power dissipation at TL=75 ℃ Lead lengths 0.375"(9.5mm) (NOTE 2)	$P_{M(AV)}$	8.0	W
Peak forward surge current, 8.3ms single half Sine-wave superimposed on rated load (JEDEC Method) (NOTE 3)	I_{FSM}	400	A
Maximum instantaneous forward voltage at 25A for unidirectional only (NOTE 4)	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55---+175	℃

NOTES: (1) Non-repetitive current pules, per Fig. 3 and derated above T_A=25 ℃ per Fig. 2
(2) Mounted on copper pad area of 0.8×0.8" (20×20mm) per Fig. 5.
(3)8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

ELECTRICAL CHARACTERISTICS at(T_A=25℃ unless otherwise noted) TABLE 1

Device Type	Breakdown Voltage $V_{(BR)}$ (V)		Test Current at I_T (mA)	Stand-off Voltage V_{WM} (V)	Maximum Reverse Leakge at V_{WM} I_D (μA)	Maximum Pead Pulse I_{PPM} (A)	Maximum Clamping Voltage at I_{PPM} V_C(V)	Maximum Temperature Coefficient of $V_{(BR)}$ (%/℃)
	MIN	MAX						
5KP5.0	6.40	7.30	50	5.0	2000	521	9.6	0.057
5KP5.0A	6.40	7.00	50	5.0	2000	543	9.2	0.057
5KP6.0	6.67	8.15	50	6.0	5000	439	11.4	0.061
5KP6.0A	6.67	7.37	50	6.0	5000	485	10.3	0.061
5KP6.5	7.22	8.8	50	6.5	2000	407	12.3	0.065
5KP6.5A	7.22	7.98	50	6.5	2000	446	11.2	0.065
5KP7.0	7.78	9.51	50	7.0	1000	376	13.3	0.068
5KP7.0A	7.78	8.60	50	7.0	1000	417	12.0	0.068
5KP7.5	8.33	10.2	5.0	7.5	250	350	14.3	0.073
5KP7.5A	8.33	9.21	5.0	7.5	250	388	12.9	0.073
5KP8.0	8.89	10.9	5.0	8.0	150	333	15.0	0.075
5KP8.0A	8.89	9.83	5.0	8.0	150	368	13.6	0.075
5KP8.5	9.44	11.5	5.0	8.5	50.0	314	15.9	0.078
5KP8.5A	9.44	10.4	5.0	8.5	50.0	347	14.4	0.078
5KP9.0	10.0	12.2	5.0	9.0	20.0	296	16.9	0.081
5KP9.0A	10.0	11.1	5.0	9.0	20.0	325	15.4	0.081
5KP10	11.1	13.6	5.0	10.0	15.0	266	18.8	0.084
5KP10A	11.1	12.3	5.0	10.0	15.0	294	17.0	0.084
5KP11	12.2	14.9	5.0	11.0	10.0	249	20.1	0.086
5KP11A	12.2	13.5	5.0	11.0	10.0	275	18.2	0.086
5KP12	13.3	16.3	5.0	12.0	10.0	227	22.0	0.088
5KP12A	13.3	14.7	5.0	12.0	10.0	251	19.9	0.088
5KP13	14.4	17.6	5.0	13.0	10.0	210	23.8	0.090
5KP13A	14.4	15.9	5.0	13.0	10.0	233	21.5	0.090
5KP14	15.6	19.1	5.0	14.0	10.0	194	25.8	0.092
5KP14A	15.6	17.2	5.0	14.0	10.0	216	23.2	0.092
5KP15	16.7	20.4	5.0	15.0	10.0	186	26.9	0.094
5KP15A	16.7	18.5	5.0	15.0	10.0	205	24.4	0.094
5KP16	17.8	21.8	5.0	16.0	10.0	174	28.8	0.096
5KP16A	17.8	19.7	5.0	16.0	10.0	192	26.0	0.096
5KP17	18.9	23.1	5.0	17.0	10.0	164	30.5	0.097
5KP17A	18.9	20.9	5.0	17.0	10.0	181	27.6	0.097
5KP18	20.0	24.4	5.0	18.0	10.0	155	32.2	0.098
5KP18A	20.0	22.1	5.0	18.0	10.0	171	29.2	0.098
5KP20	22.2	27.1	5.0	20.0	10.0	140	35.8	0.099
5KP20A	22.2	24.5	5.0	20.0	10.0	154	32.4	0.099
5KP22	24.4	29.8	5.0	22.0	10.0	127	39.4	0.100
5KP22A	24.4	26.9	5.0	22.0	10.0	141	35.5	0.100
5KP24	26.7	32.6	5.0	24.0	10.0	116	43.0	0.101
5KP24A	26.7	29.5	5.0	24.0	10.0	129	38.9	0.101
5KP26	28.9	35.3	5.0	26.0	10.0	107	46.6	0.101
5KP26A	28.9	31.9	5.0	26.0	10.0	119	42.1	0.101
5KP28	31.1	38.0	5.0	28.0	10.0	100	50.1	0.102
5KP28A	31.1	34.4	5.0	28.0	10.0	110	45.4	0.102
5KP30	33.3	40.7	5.0	30.0	10.0	93.5	53.5	0.103
5KP30A	33.3	36.8	5.0	30.0	10.0	103	48.4	0.103
5KP33	36.7	44.9	5.0	33.0	10.0	84.7	59.0	0.104
5KP33A	36.7	40.6	5.0	33.0	10.0	93.8	53.3	0.104
5KP36	40.0	48.9	5.0	36.0	10.0	77.8	64.3	0.104
5KP36A	40.0	44.2	5.0	36.0	10.0	86.1	58.1	0.104
5KP40	44.4	54.3	5.0	40.0	10.0	70.0	71.4	0.105
5KP40A	44.4	49.1	5.0	40.0	10.0	77.5	64.5	0.105

ELECTRICAL CHARACTERISTICS at(T_A=25℃ unless otherwise noted) TABLE 1(Cont' d)

Device Type	Breakdown Voltage $V_{(BR)}$ (V)		Test Current at I_T (mA)	Stand-off Voltage V_{WM} (V)	Maximum Reverse Leakge at V_{WM} I_D (μA)	Maximum Pead Pulse I_{PPM} (A)	Maximum Clamping Voltage at I_{PPM} V_C(V)	Maximum Temperature Coefficient of $V_{(BR)}$ (%/℃)
	MIN	MAX						
5KP43	47.8	58.4	5.0	43.0	10.0	65.2	76.7	0.105
5KP43A	47.8	52.8	5.0	43.0	10.0	72.0	69.4	0.105
5KP45	50.0	61.1	5.0	45.0	10.0	62.3	80.3	0.106
5KP45A	50.0	55.3	5.0	45.0	10.0	68.8	72.7	0.106
5KP48	53.3	65.2	5.0	48.0	10.0	58.5	85.5	0.106
5KP48A	53.3	58.9	5.0	48.0	10.0	64.6	77.4	0.106
5KP51	56.1	69.3	5.0	51.0	10.0	54.9	91.1	0.107
5KP51A	56.7	62.7	5.0	51.0	10.0	60.7	82.4	0.107
5KP54	60.0	73.3	5.0	54.0	10.0	51.9	96.3	0.107
5KP54A	60.0	66.3	5.0	54.0	10.0	57.4	87.1	0.107
5KP58	64.4	78.7	5.0	58.0	10.0	48.5	103	0.107
5KP58A	64.4	71.2	5.0	58.0	10.0	53.4	94	0.107
5KP60	66.7	81.5	5.0	60.0	10.0	46.7	107	0.108
5KP60A	66.7	73.7	5.0	60.0	10.0	51.7	97	0.108
5KP64	71.1	96.9	5.0	64.0	10.0	43.9	114	0.108
5KP64A	71.1	78.6	5.0	64.0	10.0	48.5	103	0.108
5KP70	77.6	95.1	5.0	70.0	10.0	40.0	125	0.108
5KP70A	77.6	86.0	5.0	70.0	10.0	44.2	113	0.108
5KP75	83.3	102	5.0	75.0	10.0	37.3	134	0.108
5KP75A	83.3	92.1	5.0	75.0	10.0	41.3	121	0.108
5KP78	86.7	106.0	5.0	78.0	10.0	36.0	139	0.108
5KP78A	86.7	95.8	5.0	78.0	10.0	39.7	126	0.108
5KP85	94.4	115	5.0	85.0	10.0	33.1	151	0.108
5KP85A	94.4	104	5.0	85.0	10.0	36.5	137	0.108
5KP90	100	122	5.0	90.0	10.0	31.3	160	0.110
5KP90A	100	111	5.0	90.0	10.0	34.2	146	0.110
5KP100	111	136	5.0	100	10.0	27.9	179	0.110
5KP100A	111	123	5.0	100	10.0	30.9	162	0.110
5KP110	122	149	5.0	110	10.0	25.5	196	0.112
5KP110A	122	135	5.0	110	10.0	28.2	177	0.112
5KP120	133	161	5.0	120	10.0	23.6	212	0.112
5KP120A	133	147	5.0	120	10.0	26.0	193	0.112
5KP130	144	174	5.0	130	10.0	21.7	231	0.114
5KP130A	144	159	5.0	130	10.0	24.0	209	0.114
5KP150	167	203	5.0	150	10.0	18.6	269	0.114
5KP150A	167	185	5.0	150	10.0	20.6	243	0.114
5KP160	178	216	5.0	160	10.0	17.5	285	0.118
5KP160A	178	197	5.0	160	10.0	19.3	259	0.118
5KP170	189	229	5.0	170	10.0	16.5	303	0.118
5KP170A	189	209	5.0	170	10.0	18.2	275	0.118
5KP180	200	242	5.0	180	10.0	16.1	319	0.122
5KP180A	200	221	5.0	180	10.0	17.6	292	0.122
5KP190	211	255	5.0	190	10.0	8.8	341	0.126
5KP190A	211	233	5.0	190	10.0	9.7	310	0.126
5KP200	222	270	5.0	200	10.0	8.2	365.3	0.130
5KP200A	222	246	5.0	200	10.0	9.1	329.2	0.130
5KP210	233	283	5.0	210	10.0	7.7	390.0	0.134
5KP210A	233	258	5.0	210	10.0	8.6	349.5	0.134
5KP220	244	296	5.0	220	10.0	7.3	411.7	0.138
5KP220A	244	270	5.0	220	10.0	8.1	371.1	0.138

FIG.1 -- PEAK PULSE POWER RATING CURVE

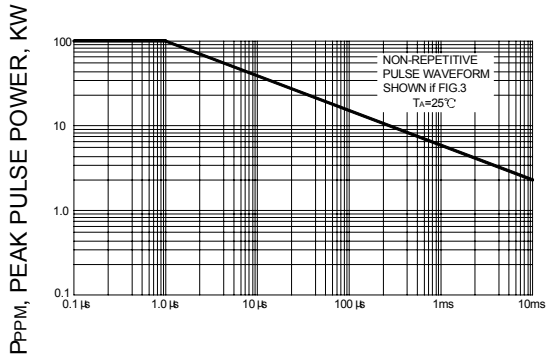


FIG.2 -- PULSE DERATING CURVE

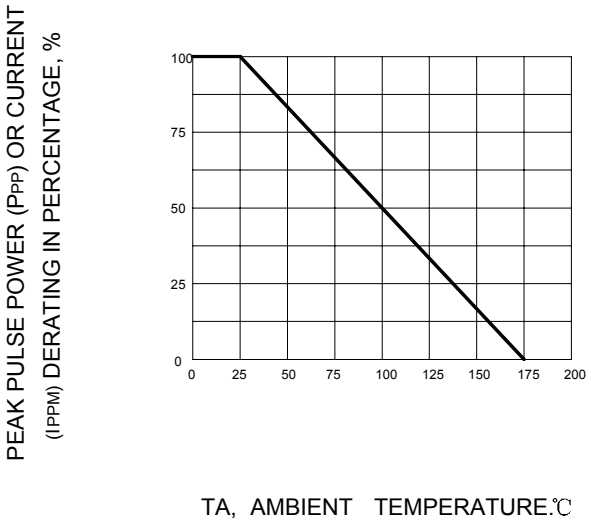


FIG.3 -- PULSE WAVEFORM

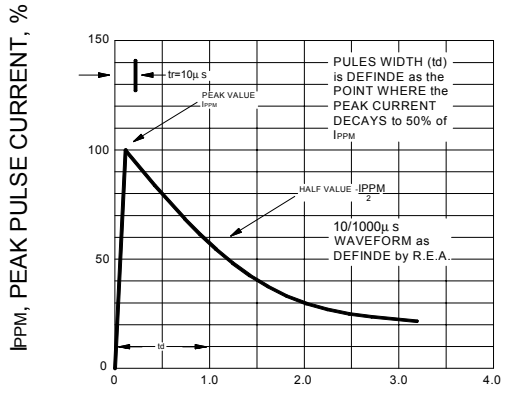


FIG.4 -- TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

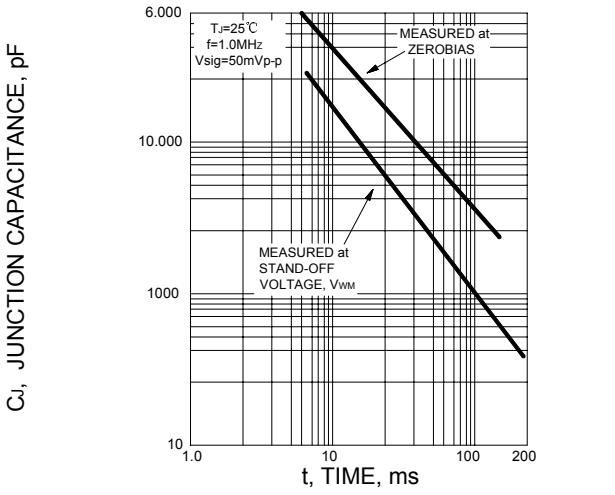


FIG.5 -- STEADY STATE POWER DERATING CURVE

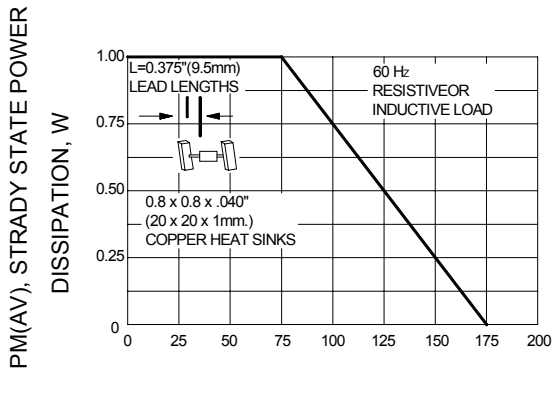


FIG.6 -- MAXIMUN NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY