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10KP11 ~ 10KP180A

TRANSIENT VOLTAGE SUPPRESSOR

V_{RM} : 11 - 180 Volts

P_{PK} : 10,000 Watts

FEATURES :

* 10,000 Watts Peak Pulse Power
* Excellent clamping capability
* Low incremental surge resistance
* Fast response time : typically less then 1.0 ps from 0 volt to $V_{BR(min.)}$
* Pb / RoHS Free

MECHANICAL DATA

* Case : Void-free molded plastic body
* Epoxy : UL94V-0 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

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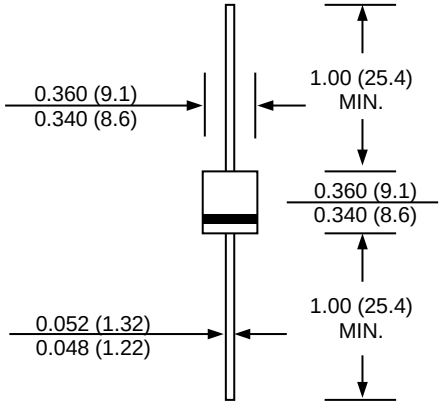

Dimensions in inches and (millimeters)

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}	10,000	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)
10KP11	12.2	14.9	5	11	10000	498	20.1	0.086
10KP11A	12.2	13.5	5	11	10000	549	18.2	0.086
10KP12	13.3	16.3	5	12	10000	455	22.0	0.088
10KP12A	13.3	14.7	5	12	10000	503	19.9	0.088
10KP13	14.4	17.6	5	13	4000	420	23.8	0.090
10KP13A	14.4	15.9	5	13	4000	465	21.5	0.090
10KP14	15.6	19.1	5	14	2000	388	25.8	0.092
10KP14A	15.6	17.2	5	14	2000	431	23.2	0.092
10KP15	16.7	20.4	5	15	500	372	26.9	0.094
10KP15A	16.7	18.5	5	15	500	410	24.4	0.094
10KP16	17.8	21.8	5	16	300	347	28.8	0.096
10KP16A	17.8	19.7	5	16	300	385	26.0	0.096
10KP17	18.9	23.1	5	17	100	328	30.5	0.097
10KP17A	18.9	20.9	5	17	100	362	27.6	0.097
10KP18	20.0	24.4	5	18	40	311	32.2	0.098
10KP18A	20.0	22.1	5	18	40	342	29.2	0.098
10KP20	22.2	27.1	5	20	30	279	35.8	0.099
10KP20A	22.2	24.5	5	20	30	309	32.4	0.099
10KP22	24.4	29.8	5	22	20	254	39.4	0.100
10KP22A	24.4	26.9	5	22	20	282	35.5	0.100
10KP24	26.7	32.6	5	24	20	233	43.0	0.101
10KP24A	26.7	29.5	5	24	20	257	38.9	0.101
10KP26	28.9	35.3	5	26	20	215	46.6	0.101
10KP26A	28.9	31.9	5	26	20	238	42.1	0.101
10KP28	31.1	38.0	5	28	20	200	50.1	0.102
10KP28A	31.1	34.4	5	28	20	220	45.4	0.102
10KP30	33.3	40.7	5	30	20	187	53.5	0.103
10KP30A	33.3	36.8	5	30	20	207	48.4	0.103
10KP33	36.7	44.9	5	33	20	169	59.0	0.104
10KP33A	36.7	40.6	5	33	20	188	53.3	0.104
10KP36	40.0	48.9	5	36	20	156	64.3	0.104
10KP36A	40.0	44.2	5	36	20	172	58.1	0.104
10KP40	44.4	54.3	5	40	20	140	71.4	0.105
10KP40A	44.4	49.1	5	40	20	155	64.5	0.105
10KP43	47.8	58.4	5	43	20	130	76.7	0.105
10KP43A	47.8	52.8	5	43	20	144	69.4	0.105
10KP45	50.0	61.1	5	45	20	125	80.3	0.106
10KP45A	50.0	55.3	5	45	20	138	72.7	0.106
10KP48	53.3	65.2	5	48	20	117	85.5	0.106
10KP48A	53.3	58.9	5	48	20	129	77.4	0.106
10KP51	56.7	69.3	5	51	20	110	91.1	0.107
10KP51A	56.7	62.7	5	51	20	121	82.4	0.107
10KP54	60.0	73.3	5	54	20	104	96.3	0.107
10KP54A	60.0	66.3	5	54	20	115	87.1	0.107

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)
10KP56	62.2	76.1	5	56	20	100	100	0.107
10KP56A	62.2	68.8	5	56	20	110	91	0.107
10KP58	64.4	78.7	5	58	20	97	103	0.107
10KP58A	64.4	71.2	5	58	20	106	94	0.107
10KP60	66.7	81.5	5	60	20	93	107	0.108
10KP60A	66.7	73.7	5	60	20	103	97	0.108
10KP64	71.1	96.9	5	64	20	88	114	0.108
10KP64A	71.1	78.6	5	64	20	97	103	0.108
10KP70	77.6	95.1	5	70	20	80	125	0.108
10KP70A	77.6	86.0	5	70	20	88	113	0.108
10KP75	83.3	102	5	75	20	75	134	0.108
10KP75A	83.3	92.1	5	75	20	83	121	0.108
10KP78	86.7	106	5	78	20	72	139	0.108
10KP78A	86.7	95.8	5	78	20	79	126	0.108
10KP85	94.4	115	5	85	20	66	151	0.108
10KP85A	94.4	104	5	85	20	73	137	0.110
10KP90	100	122	5	90	20	63	160	0.110
10KP90A	100	111	5	90	20	68	146	0.110
10KP100	111	136	5	100	20	56	179	0.110
10KP100A	111	123	5	100	20	62	162	0.110
10KP110	122	149	5	110	20	51	196	0.112
10KP110A	122	135	5	110	20	56	177	0.112
10KP120	133	163	5	120	20	47	211	0.112
10KP120A	133	147	5	120	20	52	192	0.112
10KP150	167	204	5	150	20	38	263	0.112
10KP150A	167	184	5	150	20	42	238	0.112
10KP160	178	217	5	160	20	36	281	0.114
10KP160A	178	196	5	160	20	38	263	0.114
10KP170	189	231	5	170	20	34	298	0.114
10KP170A	189	209	5	170	20	36	274	0.114
10KP180	200	244	5	180	20	32	316	0.114
10KP180A	200	221	5	180	20	34	290	0.114

Notes:

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

(2) Surge Current waveform per Fig. 3

(4) For Bi-directional devices having V_R of 20 Volts and under the I_R limit is doubled.

RATING AND CHARACTERISTIC CURVES (10KP11 ~ 10KP180A)

FIG.1 - PULSE DERATING CURVE

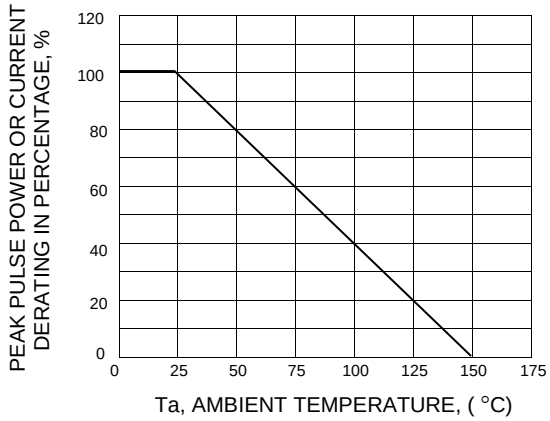

FIG.2 - PULSE WAVEFORM

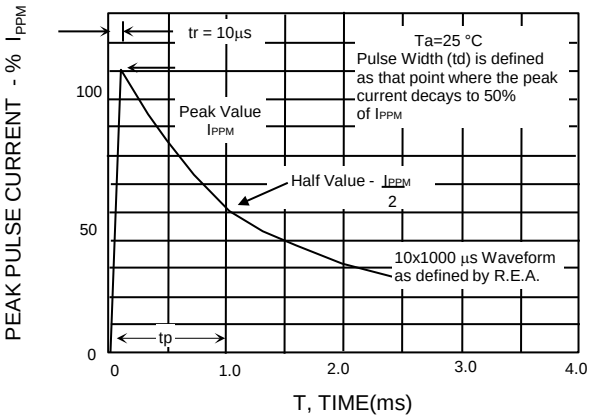

FIG.3 - STEADY STATE POWER DERATING

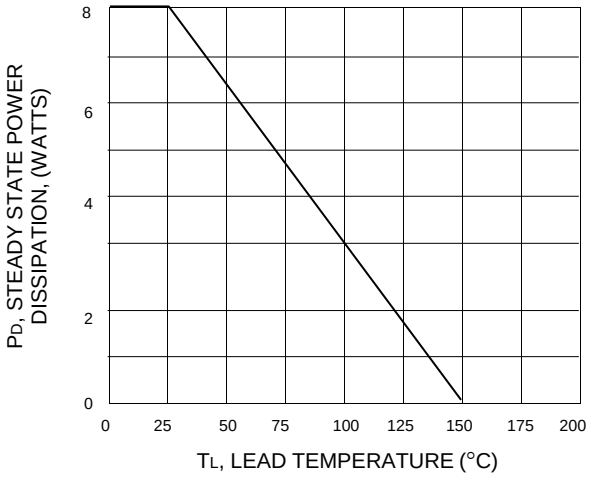

FIG.4 - PEAK PULSE POWER RATING CURVE