



DC COMPONENTS CO., LTD.
RECTIFIER SPECIALISTS

**3KP5.0
THRU
3KP170CA**

TECHNICAL SPECIFICATIONS OF TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE RANGE - 5.0 to 170 Volts

PEAK PULSE POWER - 3000 Watts

FEATURES

- * Glass passivated junction
- * 3000 Watts Peak Pulse Power capability on 10/1000 μ s waveform
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time

MECHANICAL DATA

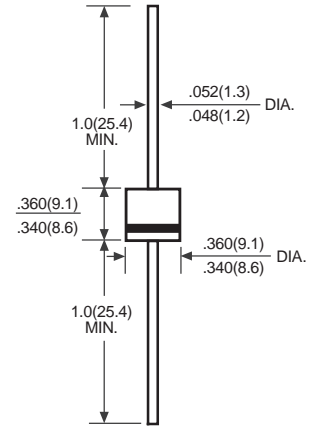
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Polarity: Color band denotes positive end (cathode) except bidirectional types
- * Mounting position: Any
- * Weight: 2.1 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load,
For capacitive load, derate current by 20%.



R6



Dimensions in inches and (millimeters)

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA suffix (e.g. 3KP5.0C, 3KP170CA).

Electrical characteristics apply in both directions

	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note 1, FIG. 1)	PPPM	Minimum 3000	Watts
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths .375" (9.5mm) (Note 2)	PM(AV)	8.0	Watts
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC Method) (Note 3)	IFSM	250	Amps
Operating 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 0.8 X 0.8" (20 X 20mm) per Fig. 5
3. 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

RATING AND CHARACTERISTIC CURVES (3KP5.0 THRU 3KP170CA)

FIG. 1 - PEAK PULSE POWER RATING CURVE

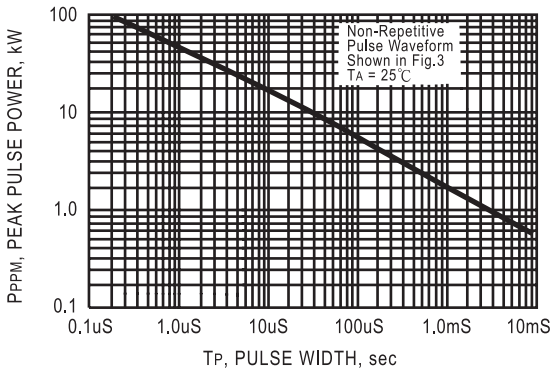


FIG. 2 - PULSE DERATING CURVE

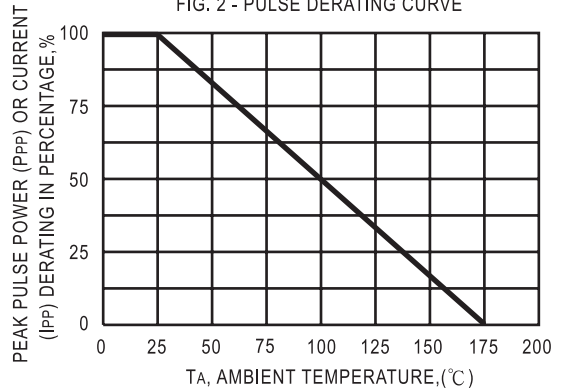


FIG. 3 - PULSE WAVEFORM

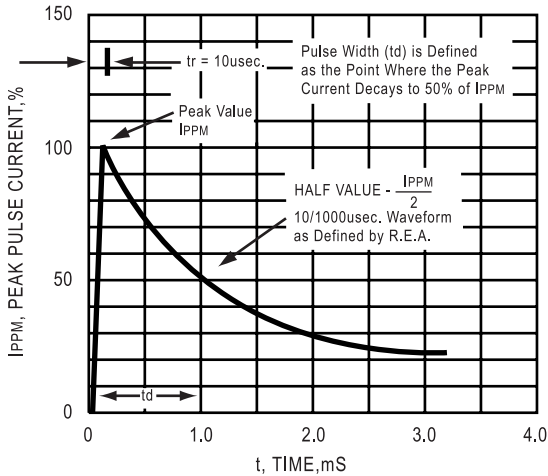


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

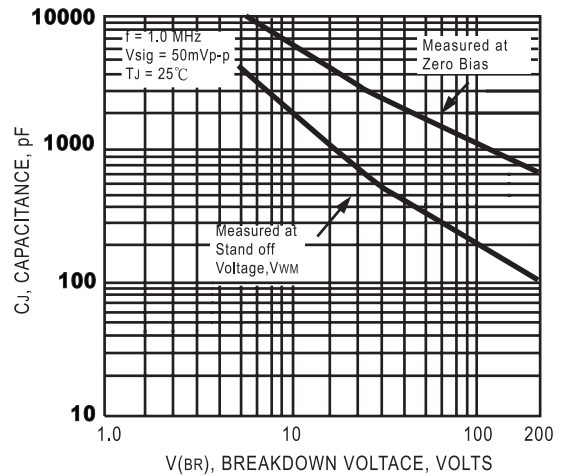


FIG. 5 - STEADY STATE POWER DERATING CURVE

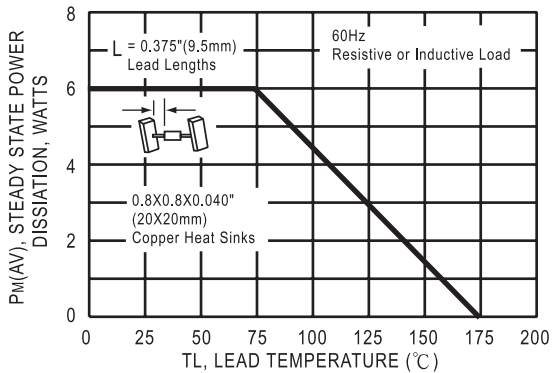
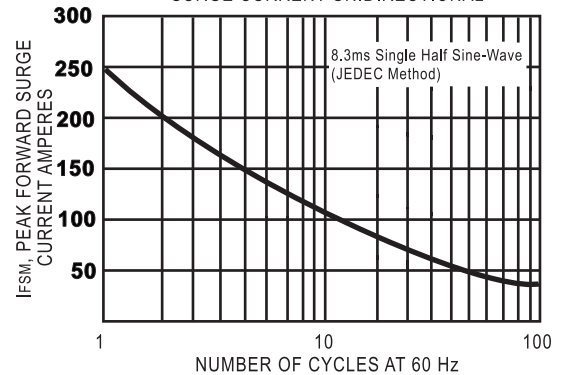


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL



3KP (3000W) SERIES TRANSIENT VOLTAGE SUPPRESSORS

TYPE	Reverse Stand-off Voltage	Breakdown Voltage @ I _T		Test Current	Maximum Reverse Leakage @ V _{RWM}		Maximum Clamping Voltage @ I _{PP}	Maximum Peak Pulse Current	
		V _{BR}			I _T	I _R			
		Min. V	Max. V			UNI- μA			BI- μA
V _{RWM}	V	V	V	mA	μA	μA	V _c	I _{PP}	
	V	V	V	mA	μA	μA	V	A	
3KP5.0	5.0	6.40	7.55	10	1000	2000	9.6	312.5	
3KP5.0A	5.0	6.40	7.25	10	1000	2000	9.2	326.0	
3KP6.0	6.0	6.67	8.45	10	1000	2000	11.4	263.2	
3KP6.0A	6.0	6.67	7.67	10	1000	2000	10.3	291.3	
3KP6.5	6.5	7.22	9.14	10	500	1000	12.3	243.9	
3KP6.5A	6.5	7.22	8.30	10	500	1000	11.2	267.9	
3KP7.0	7.0	7.78	9.86	10	200	400	13.3	225.6	
3KP7.0A	7.0	7.78	8.95	10	200	400	12.0	250.0	
3KP7.5	7.5	8.33	10.67	1	100	200	14.3	209.8	
3KP7.5A	7.5	8.33	9.58	1	100	200	12.9	232.6	
3KP8.0	8.0	8.89	11.30	1	50	100	15.0	220.0	
3KP8.0A	8.0	8.89	10.23	1	50	100	13.6	220.6	
3KP8.5	8.5	9.44	11.92	1	25	50	15.9	188.8	
3KP8.5A	8.5	9.44	10.82	1	25	50	14.4	208.4	
3KP9.0	9.0	10.0	12.6	1	10	20	16.9	177.4	
3KP9.0A	9.0	10.0	11.5	1	10	20	15.4	194.8	
3KP10	10	11.1	14.1	1	5		18.8	159.6	
3KP10A	10	11.1	12.8	1	5		17.0	176.4	
3KP11	11	12.2	15.4	1	5		20.1	149.2	
3KP11A	11	12.2	14.0	1	5		18.2	184.8	
3KP12	12	13.3	16.9	1	5		22.0	136.4	
3KP12A	12	13.3	15.3	1	5		19.9	150.6	
3KP13	13	14.4	18.2	1	5		23.8	126.0	
3KP13A	13	14.4	16.5	1	5		21.5	139.4	
3KP14	14	15.6	19.8	1	5		25.8	116.2	
3KP14A	14	15.6	17.9	1	5		23.2	129.4	
3KP15	15	16.7	21.1	1	5		26.9	111.6	
3KP15A	15	16.7	19.2	1	5		24.4	123.0	
3KP16	16	17.8	22.6	1	5		28.8	104.2	
3KP16A	16	17.8	20.5	1	5		26.0	115.4	
3KP17	17	18.9	23.9	1	5		30.5	98.4	
3KP17A	17	18.9	21.7	1	5		27.6	106.6	
3KP18	18	20.0	25.3	1	5		32.2	93.2	
3KP18A	18	20.0	23.3	1	5		29.2	102.8	
3KP20	20	22.2	28.1	1	5		35.8	83.8	
3KP20A	20	22.2	25.5	1	5		32.4	92.6	
3KP22	22	24.4	30.9	1	5		39.4	76.2	
3KP22A	22	24.4	28.0	1	5		35.5	84.4	
3KP24	24	26.7	33.8	1	5		43.0	69.8	
3KP24A	24	26.7	30.7	1	5		38.9	77.2	
3KP26	26	28.9	36.6	1	5		46.6	64.4	
3KP26A	26	28.9	33.2	1	5		42.1	71.2	
3KP28	28	31.1	39.4	1	5		50.0	60.0	
3KP28A	28	31.1	35.8	1	5		45.4	66.0	
3KP30	30	33.3	42.2	1	5		53.5	56.0	
3KP30A	30	33.3	38.3	1	5		48.4	62.0	
3KP33	33	36.7	46.5	1	5		59.0	50.4	
3KP33A	33	36.7	42.2	1	5		53.3	56.2	



3KP (3000W) SERIES TRANSIENT VOLTAGE SUPPRESSORS

TYPE	Reverse Stand-off Voltage	Breakdown Voltage @ I_T		Test Current	Maximum Reverse Leakage @ V_{RWM}		Maximum Clamping Voltage @ I_{PP}	Maximum Peak Pulse Current
	V_{RWM}	V_{BR}		I_T	I_R		V_C	I_{PP}
		Min. V	Max. V		UNI- μA	BI- μA		
	V	V	V	mA	μA	μA	V	A
3KP36	36	40.0	50.7	1	5		64.3	46.6
3KP36A	36	40.0	46.0	1	5		58.1	51.6
3KP40	40	44.4	56.3	1	5		71.4	42.0
3KP40A	40	44.4	51.1	1	5		64.5	46.4
3KP43	43	47.8	60.5	1	5		76.7	39.2
3KP43A	43	47.8	54.9	1	5		69.4	43.2
3KP45	45	50.0	63.3	1	5		80.3	37.4
3KP45A	45	50.0	57.5	1	5		72.7	41.2
3KP48	48	53.3	67.5	1	5		85.5	35.0
3KP48A	48	53.3	61.3	1	5		77.4	38.8
3KP51	51	56.7	71.8	1	5		91.1	37.0
3KP51A	51	56.7	65.2	1	5		82.4	36.4
3KP54	54	60.0	76.0	1	5		96.3	31.2
3KP54A	54	60.0	69.0	1	5		87.1	34.4
3KP58	58	64.4	81.6	1	5		103	39.2
3KP58A	58	64.4	74.1	1	5		93.6	32.0
3KP60	60	66.7	84.5	1	5		107	28.0
3KP60A	60	66.7	76.7	1	5		96.8	31.0
3KP64	64	71.1	90.1	1	5		114	26.4
3KP64A	64	71.1	81.8	1	5		103	29.2
3KP70	70	77.8	98.6	1	5		125	24.0
3KP70A	70	77.8	89.5	1	5		113	26.6
3KP75	75	83.3	105.7	1	5		134	22.4
3KP75A	75	83.3	95.8	1	5		121	24.8
3KP78	78	86.7	109.8	1	5		139	21.6
3KP78A	78	86.7	99.7	1	5		126	22.8
3KP85	85	94.4	119.2	1	5		151	19.8
3KP85A	85	94.4	108.2	1	5		137	20.8
3KP90	90	100	126.5	1	5		160	18.8
3KP90A	90	100	115.5	1	5		146	20.6
3KP100	100	111	141.0	1	5		179	16.6
3KP100A	100	111	128.0	1	5		162	18.6
3KP110	110	122	154.5	1	5		196	15.4
3KP110A	110	122	140.5	1	5		177	16.8
3KP120	120	133	169.0	1	5		214	14.0
3KP120A	120	133	153.0	1	5		193	15.6
3KP130	130	144	182.5	1	5		231	13.0
3KP130A	130	144	165.5	1	5		209	14.4
3KP150	150	167	211.5	1	5		268	11.2
3KP150A	150	167	192.5	1	5		243	12.4
3KP160	160	178	226.0	1	5		287	10.4
3KP160A	160	178	205.0	1	5		259	11.6
3KP170	170	189	239.5	1	5		304	9.8
3KP170A	170	189	217.5	1	5		275	11.0

- NOTES: 1. V_{BR} measured after I_T applied for 300 μs . I_T = Square Wave Pulse or equivalent.
 2. For bidirectional use C or CA suffixes for all types (ex. 3KP5.0C, 3KP170CA).
 Electrical characteristics apply in both directions.
 3. For bidirectional types having V_{RWM} of 10 volts and less, the I_D limit is doubled.

