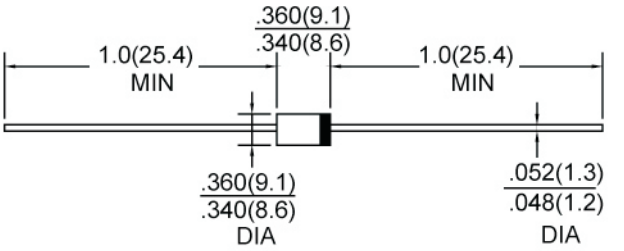
TRANSIENT VOLTAGE SUPPRESSOR
3KP5.0A~3KP220CA 3000 Watts

RoHS

FEATURES

- Glass passivated chip junction
- Available in uni-directional & bi-directional
- 3000W surge capability at 10×100μs waveform, duty cycle: 0.01%
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time: Typically less than 1.0ps from 0 volts to BV min
- Typical I_R less 2μA above 12V
- High temperature soldering capability: 260℃/40 seconds/.375" (9.5mm) Lead length/5lbs. (2.3kg) tension

Voltage Range 5.0 to 220 Volts
3000 Watts Peak Power
7.0 Watts Steady State



R-6 (P600)

Dimensions in inches and (millimeters)

MECHANICAL DATA

- Molded plastic body (UL 94V-0 rated)
- Axial leads, solderable per MIL-STD 202, Method 208
- Color band denotes cathode, except for bipolar
- Weight: 1.7 gram

MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capactitive load, derate current by 20%

Parameter	Symbol	Value	Unit
Peak Power Dissipation at T_A=25℃, Tp=1ms (Note 1)	Pppm	Minimum 3000	Watts
Steady State Power Dissipation at T_L=75℃ Lead Lengths. "0.495" (12.5mm) Note 2	P_D	7.0	Watts
Peak Forward Surge Current, 8.3 ms Single Half sine-wave Superimposed on Rated Load (JEDEC method) (Note 3)	I_{FSM}	300	Amps
Operating and Storage Temperature	T_J,T_{STG}	-55 to +175	℃

NOTE: 1. Non-repetitive current pulse, per Fig-1 and derated above T_A=25℃ per Fig. 2 .
2. Mounted on Copper Pad Area of 1.6×1.6" (40×40mm) per Fig-5
3. 10ms Single Half Sine-Wave or Equivalent Square Wave, Duty Cycle=4 Pulses Per Minutes Maximum.

Devices for Bipolar Applications
1. Electrical Characteristics Apply in Both Directions.

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RATING & CHARACTERISTIC CURVES

FIG 1-Peak Pulse Power Rating Curve

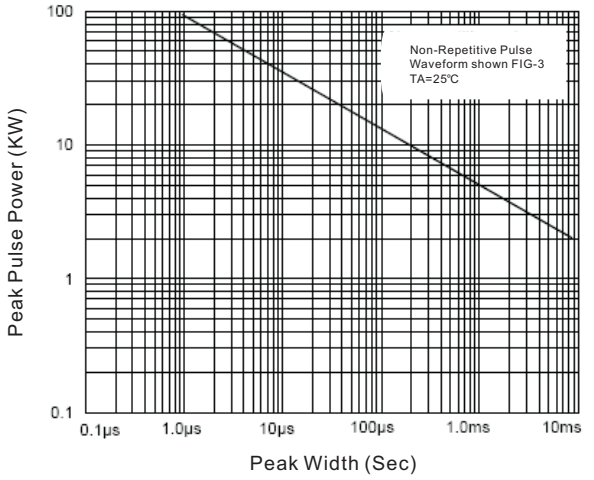


FIG 2-Pulse Power or Current VS Initial junction Temperature

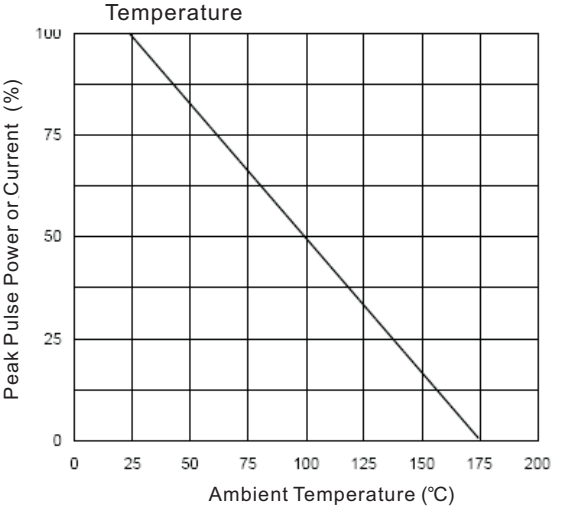


FIG 3-Pulse Waveform

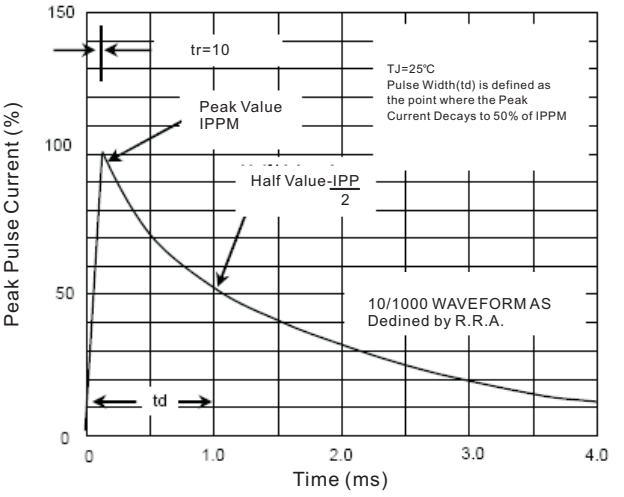


FIG 4-Power Derating Curve

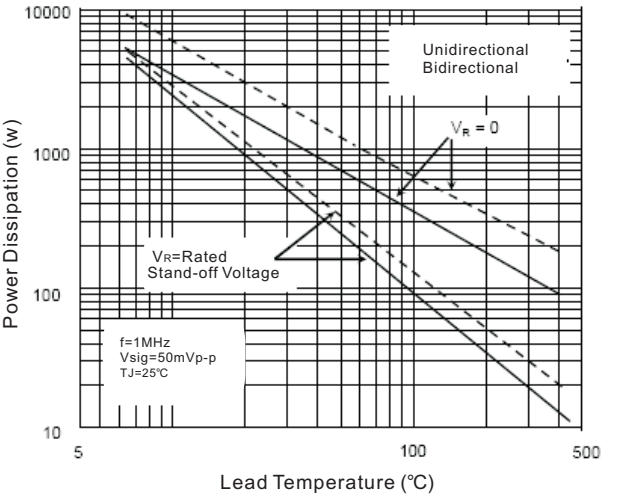


FIG 5-Maximum Non-Repetitive Surge Current

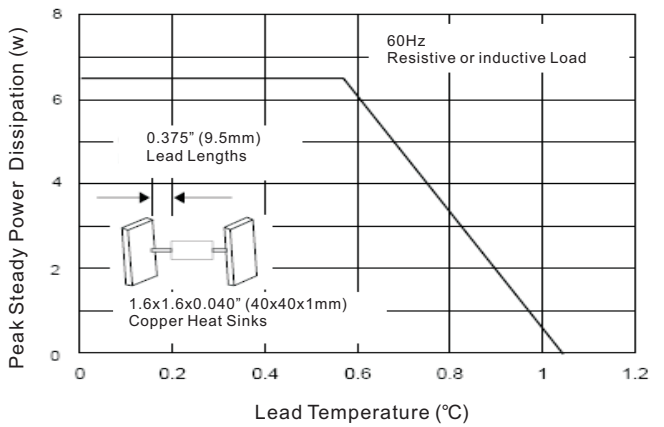
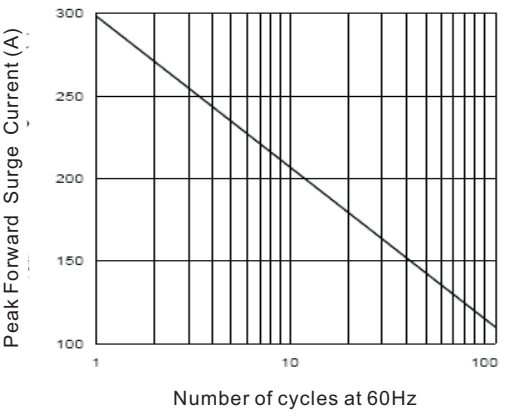


FIG 5-Maximum Non-Repetitive Surge Current



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■ ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

Part Number Unidirectional	Part Number (Bidirectional)	Breakdown Voltage		Test Current	Reverse Stand-Off Voltage	Reverse Leakage	Peak Pulse Current	Maximum Clamping Voltage
		$V_{(BR)}$ @I_T		I_T	V_{RWM}	I_D @ V_{RWM}	Ippm	V_C @ Ippm
		Min	Max	mA	V	μA	A	V
3KP5.0A	3KP5.0CA	6.40	7.00	50	5.0	5000	326.1	9.2
3KP6.0A	3KP6.0CA	6.67	7.37	50	6.0	5000	291.3	10.3
3KP6.5A	3KP6.5CA	7.22	7.98	50	6.5	2000	267.9	11.2
3KP7.0A	3KP7.0CA	7.78	8.60	50	7.0	1000	250.0	12.0
3KP7.5A	3KP7.5CA	8.33	9.21	5	7.5	250	232.6	12.9
3KP8.0A	3KP8.0CA	8.89	9.83	5	8.0	150	220.6	13.6
3KP8.5A	3KP8.5CA	9.44	10.40	5	8.5	50	208.3	14.4
3KP9.0A	3KP9.0CA	10.00	11.10	5	9.0	20	194.8	15.4
3KP10A	3KP10CA	11.10	12.30	5	10.0	15	176.5	17.0
3KP11A	3KP11CA	12.20	13.50	5	11.0	10	164.8	18.2
3KP12A	3KP12CA	13.30	14.70	5	12.0	10	150.8	19.9
3KP13A	3KP13CA	14.40	15.90	5	13.0	10	139.5	21.5
3KP14A	3KP14CA	15.60	17.20	5	14.0	10	129.3	23.2
3KP15A	3KP15CA	16.70	18.50	5	15.0	10	123.0	24.4
3KP16A	3KP16CA	17.80	19.70	5	16.0	10	115.4	26.0
3KP17A	3KP17CA	18.90	20.90	5	17.0	10	108.7	27.6
3KP18A	3KP18CA	20.00	22.10	5	18.0	10	102.7	29.2
3KP20A	3KP20CA	22.20	24.50	5	20.0	10	92.6	32.4
3KP22A	3KP22CA	24.40	26.90	5	22.0	10	84.5	35.5
3KP24A	3KP24CA	26.70	29.50	5	24.0	10	77.1	38.9
3KP26A	3KP26CA	28.90	31.90	5	26.0	10	71.3	42.1
3KP28A	3KP28CA	31.10	34.40	5	28.0	10	66.1	45.4
3KP30A	3KP30CA	33.30	36.80	5	30.0	10	62.0	48.4
3KP33A	3KP33CA	36.70	40.60	5	33.0	10	56.3	53.3
3KP36A	3KP36CA	40.00	44.20	5	36.0	10	51.6	58.1
3KP40A	3KP40CA	44.40	49.10	5	40.0	10	46.5	64.5
3KP43A	3KP43CA	47.80	52.80	5	43.0	10	43.2	69.4
3KP45A	3KP45CA	50.00	55.30	5	45.0	10	41.3	72.7
3KP48A	3KP48CA	53.30	58.90	5	48.0	10	38.8	77.4
3KP51A	3KP51CA	56.70	62.70	5	51.0	10	36.4	82.4
3KP54A	3KP54CA	60.00	66.30	5	54.0	10	34.4	87.1
3KP58A	3KP58CA	64.40	71.20	5	58.0	10	32.1	93.6
3KP60A	3KP60CA	66.70	73.70	5	60.0	10	31.0	96.8
3KP64A	3KP64CA	71.10	78.60	5	64.0	10	29.1	103.0
3KP70A	3KP70CA	77.80	86.00	5	70.0	10	26.5	113.0
3KP75A	3KP75CA	83.30	92.10	5	75.0	10	24.8	121.0
3KP78A	3KP78CA	86.70	95.80	5	78.0	10	23.8	126.0
3KP85A	3KP85CA	94.40	104.00	5	85.0	10	21.9	137.0
3KP90A	3KP90CA	100.00	111.00	5	90.0	10	20.5	146.0
3KP100A	3KP100CA	111.00	123.00	5	100.0	10	18.5	162.0
3KP110A	3KP110CA	122.00	135.00	5	110.0	10	16.9	177.0
3KP120A	3KP120CA	133.00	147.00	5	120.0	10	15.5	193.0

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RoHS

Part Number Unidirectional	Part Number (Bidirectional)	Breakdown Voltage		Test Current	Reverse Stand-Off Voltage	Reverse Leakage	Peak Pulse Current	Maximum Clamping Voltage
		$V_{(BR)}$ @I_T		I_T	V_{RWM}	I_D @ V_{RWM}	Ippm	V_C @ Ippm
		Min.	Max	mA	V	µA	A	V
3KP130A	3KP130CA	144.00	159.00	5	130.0	10	14.4	209.0
3KP150A	3KP150CA	167.00	185.00	5	150.0	10	12.3	243.0
3KP160A	3KP160CA	178.00	197.00	5	160.0	10	11.6	259.0
3KP170A	3KP170CA	189.00	209.00	5	170.0	10	10.9	275.0
3KP180A	3KP180CA	200.00	221.00	5	180.0	10	10.4	289.0
3KP190A	3KP190CA	211.00	233.00	5	190.0	10	9.7	310.0
3KP200A	3KP200CA	222.00	246.00	5	200.0	10	9.1	329.2
3KP210A	3KP210CA	233.00	258.00	5	210.0	10	8.6	349.5
3KP220A	3KP220CA	244.00	270.00	5	220.0	10	8.1	371.1

NOTES:

1.For bipolar types having V_R of 10 volts and under, the I_R limit is doubled.
2. For bidirectional use C or CA suffix for 3KP5.0 through 3KP220.
3. All terms and symbols are consistent with ANSI/IEEE C62.35
4. A suffix is 5% tolerance, no suffix is 10% tolerance

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