

## 3000W Transient Voltage Suppressor

### Features

- Glass passivated junction
- 3000W peak pulse power capability at 10/1000µs waveform repetition rate (duty cycles): 0.01%
- Fast response time: typically less than 1.0ps from 0v to VBR min.
- Excellent clamping capability
- Low incremental surge resistance
- High temperature soldering guaranteed:  
260°C/40 seconds, 0.375" (9.5mm) lead length at 5lbs. (2.3kg) tension
- RoHS Compliant



T6L



### Mechanical Data

<b>Case:</b>	Molded plastic body, T6L
<b>Lead:</b>	Plated axial leads, solderable per MIL-STD-750, Method 2026
<b>Polarity:</b>	Color band denotes the cathode except Bi-directional
<b>Mounting position:</b>	Any
<b>Weight:</b>	0.07 ounce, 2.1 grams

### Maximum Ratings ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	Value	Unit	Conditions
<b>V<sub>WM</sub></b>	Maximum Recurrent Peak Reverse Voltage	5.0 to 220	V	
<b>P<sub>PPM</sub></b>	Peak Pulse Power Dissipation on 10/1000µs Waveform	Minimum 3000	W	Note 1
<b>I<sub>PPM</sub></b>	Peak Pulse Current with 10/1000µs Waveform	See Table	A	Note 1
<b>I<sub>FSM</sub></b>	Peak Forward Surge Current, Uni-directional only	300	A	8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum
<b>V<sub>F</sub></b>	Maximum Instantaneous Forward Voltage at 100A for Uni-directional only	3.5	V	3KP5.0~3KP200
		5.0		3KP210~3KP220
<b>R<sub>thJA</sub></b>	Typical Thermal Resistance to Ambient	40	° C/W	
<b>R<sub>thJL</sub></b>	Typical Thermal Resistance to Lead	8.0	° C/W	
<b>T<sub>J</sub>, T<sub>STG</sub></b>	Operating Junction and Storage Temperature Range	-55 to +175	° C	

**Notes:** (1) Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^{\circ}C$  per Fig. 2

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## 3KP5.0A - 3KP220CA

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

P/N (note3)		Stand-Off Voltage	Breakdown Voltage @ Test Current (note1)			Max. Reverse Leakage Current @ $V_{WM}$	Max. Clamping Voltage @ $I_{PPM}$	Max. Peak Pulse Current
			$V_{BR}$		$I_T$ (mA)			
Uni-Polar	Bi-Polar	$V_{WM}$ (V)	Min.	Max.			$I_D$ ( $\mu A$ ) (note2)	$V_C$ (V)
3KP5.0A	3KP5.0CA	5.0	6.40	7.00	50	5000/10000	9.2	326.1
3KP6.0A	3KP6.0CA	6.0	6.67	7.37	50	5000/10000	10.3	291.3
3KP6.5A	3KP6.5CA	6.5	7.22	7.98	50	2000/4000	11.2	267.9
3KP7.0A	3KP7.0CA	7.0	7.78	8.60	50	1000/2000	12.0	250.0
3KP7.5A	3KP7.5CA	7.5	8.33	9.21	5	250/500	12.9	232.6
3KP8.0A	3KP8.0CA	8.0	8.89	9.83	5	150/300	13.6	220.6
3KP8.5A	3KP8.5CA	8.5	9.44	10.40	5	50/100	14.4	208.3
3KP9.0A	3KP9.0CA	9.0	10.00	11.10	5	20/40	15.4	194.8
3KP10A	3KP10CA	10.0	11.10	12.30	5	15	17.0	176.5
3KP11A	3KP11CA	11.0	12.20	13.50	5	2	18.2	164.8
3KP12A	3KP12CA	12.0	13.30	14.70	5	2	19.9	150.8
3KP13A	3KP13CA	13.0	14.40	15.90	5	2	21.5	139.5
3KP14A	3KP14CA	14.0	15.60	17.20	5	2	23.2	129.3
3KP15A	3KP15CA	15.0	16.70	18.50	5	2	24.4	123.0
3KP16A	3KP16CA	16.0	17.80	19.70	5	2	26.0	115.4
3KP17A	3KP17CA	17.0	18.90	20.90	5	2	27.6	108.7
3KP18A	3KP18CA	18.0	20.00	22.10	5	2	29.2	102.7
3KP20A	3KP20CA	20.0	22.20	24.50	5	2	32.4	92.6
3KP22A	3KP22CA	22.0	24.40	26.90	5	2	35.5	84.5
3KP24A	3KP24CA	24.0	26.70	29.50	5	2	38.9	77.1
3KP26A	3KP26CA	26.0	28.90	31.90	5	2	42.1	71.3
3KP28A	3KP28CA	28.0	31.10	34.40	5	2	45.4	66.1
3KP30A	3KP30CA	30.0	33.30	36.80	5	2	48.4	62.0
3KP33A	3KP33CA	33.0	36.70	40.60	5	2	53.3	56.3
3KP36A	3KP36CA	36.0	40.00	44.20	5	2	58.1	51.6

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## 3KP5.0A - 3KP220CA

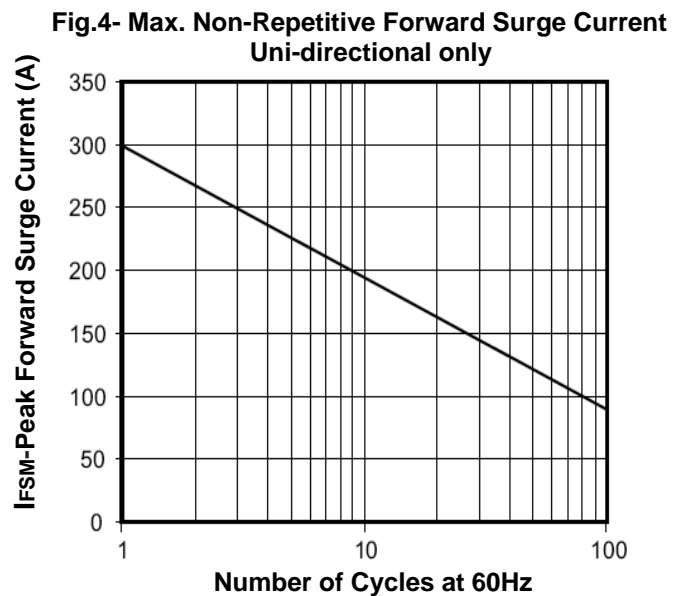
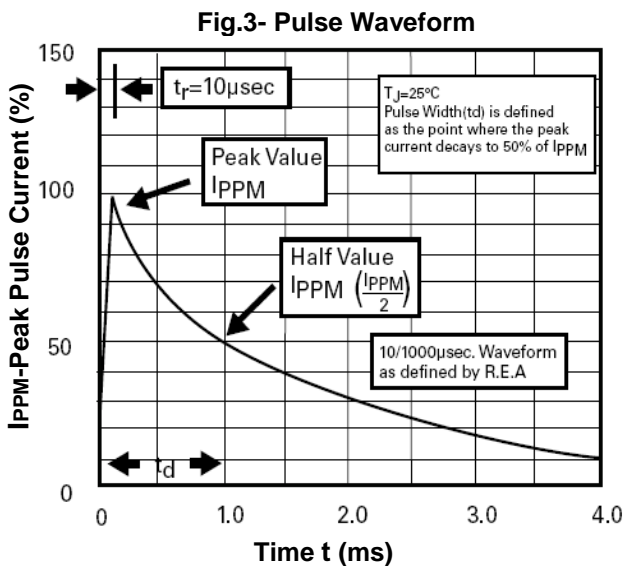
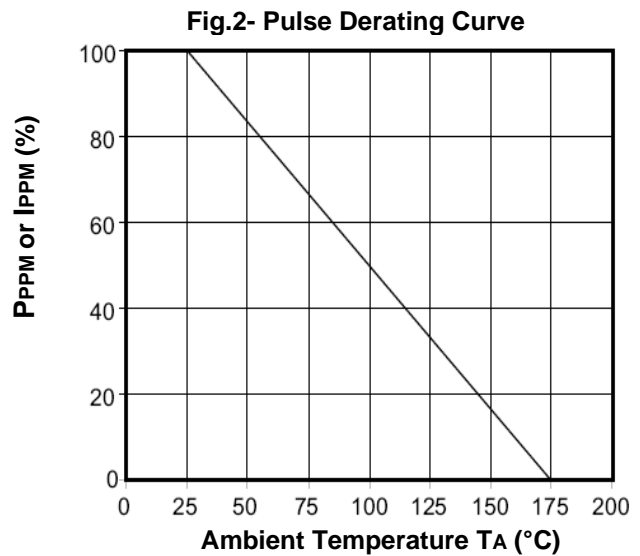
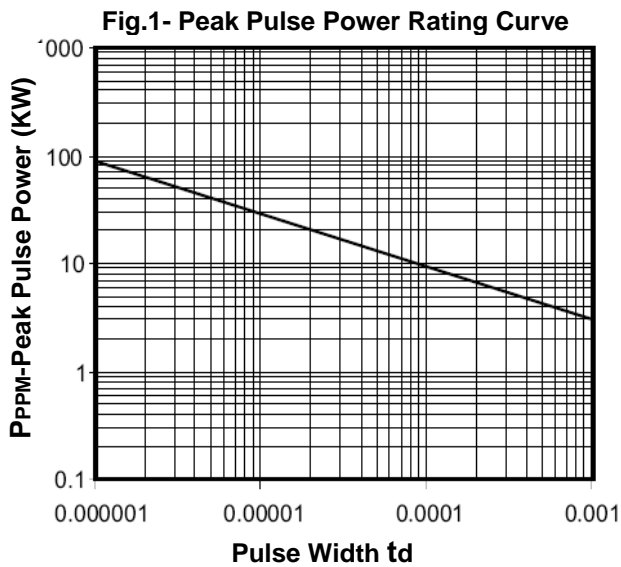
P/N (note3)		Stand-Off Voltage	Breakdown Voltage @ Test Current (note1)			Max. Reverse Leakage Current @ V <sub>WM</sub>	Max. Clamping Voltage @ I <sub>PPM</sub>	Max. Peak Pulse Current
			V <sub>BR</sub>		I <sub>T</sub> (mA)			
Uni-Polar	Bi-Polar	V <sub>WM</sub> (V)	Min.	Max.			I <sub>D</sub> (μA) (note2)	V <sub>C</sub> (V)
3KP40A	3KP40CA	40.0	44.40	49.10	5	2	64.5	46.5
3KP43A	3KP43CA	43.0	47.80	52.80	5	2	69.4	43.2
3KP45A	3KP45CA	45.0	50.00	55.30	5	2	72.7	41.3
3KP48A	3KP48CA	48.0	53.30	58.90	5	2	77.4	38.8
3KP51A	3KP51CA	51.0	56.70	62.70	5	2	82.4	36.4
3KP54A	3KP54CA	54.0	60.00	66.30	5	2	87.1	34.4
3KP58A	3KP58CA	58.0	64.40	71.20	5	2	93.6	32.1
3KP60A	3KP60CA	60.0	66.70	73.70	5	2	96.8	31.0
3KP64A	3KP64CA	64.0	71.10	78.60	5	2	103.0	29.1
3KP70A	3KP70CA	70.0	77.80	86.00	5	2	113.0	26.5
3KP75A	3KP75CA	75.0	83.30	92.10	5	2	121.0	24.8
3KP78A	3KP78CA	78.0	86.70	95.80	5	2	126.0	23.8
3KP85A	3KP85CA	85.0	94.40	104.00	5	2	137.0	21.9
3KP90A	3KP90CA	90.0	100.00	111.00	5	2	146.0	20.5
3KP100A	3KP100CA	100.0	111.00	123.00	5	2	162.0	18.5
3KP110A	3KP110CA	110.0	122.00	135.00	5	2	177.0	16.9
3KP120A	3KP120CA	120.0	133.00	147.00	5	2	193.0	15.5
3KP130A	3KP130CA	130.0	144.00	159.00	5	2	209.0	14.4
3KP150A	3KP150CA	150.0	167.00	185.00	5	2	243.0	12.3
3KP160A	3KP160CA	160.0	178.00	197.00	5	2	259.0	11.6
3KP170A	3KP170CA	170.0	189.00	209.00	5	2	275.0	10.9
3KP180A	3KP180CA	180.0	200.00	221.00	5	2	289.0	10.4
3KP190A	3KP190CA	190.0	211.00	233.00	5	2	310.0	9.7
3KP200A	3KP200CA	200.0	222.00	246.00	5	2	329.2	9.1
3KP210A	3KP210CA	210.0	233.00	258.00	5	2	349.5	8.6
3KP220A	3KP220CA	220.0	244.00	270.00	5	2	371.1	8.1

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## 3KP5.0A - 3KP220CA

- Note:**
1. Surge current waveform per Fig. 3 and derate per Fig. 2
  2. For Bi-directional types with  $V_{WM}$  of 10 volts and less, the  $I_D$  limit is doubled.
  3. C suffix for Bidirectional use, A suffix for 5% tolerance.

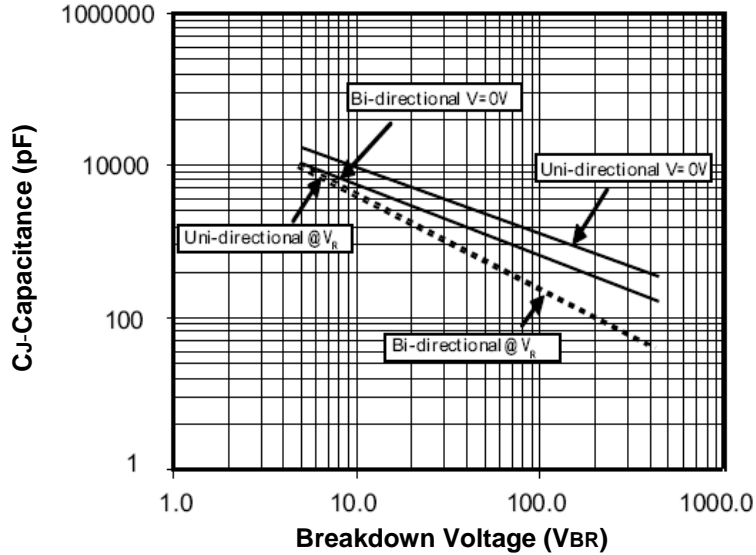
### Typical Characteristics Curves



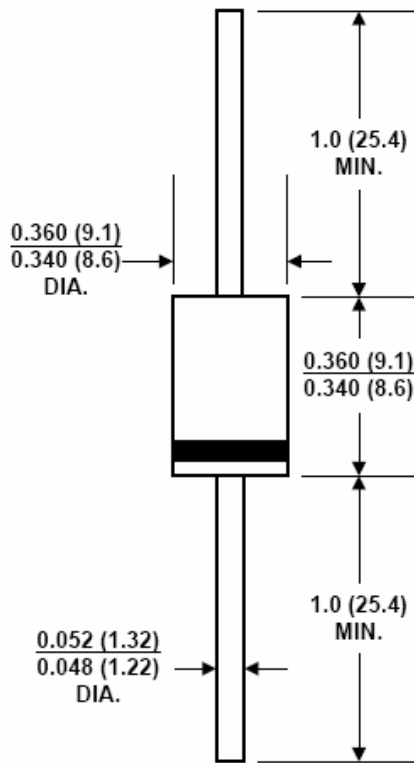
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## 3KP5.0A - 3KP220CA

Fig.5- Typical Junction Capacitance



### Dimensions in inch (mm)



T6L

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3KP5.0A - 3KP220CA

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