

## 30KW Transient Voltage Suppressor

### Features

- Glass passivated junction
- 30KW 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>	T6L molded plastic body over passivated junction
<b>Epoxy:</b>	Plastic package has UL flammability classification 94V-0
<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, 2.5 grams

### Maximum Ratings *(T<sub>Ambient</sub>=25°C unless noted otherwise)*

Symbol	Description	Value	Unit	Conditions
<b>V<sub>WM</sub></b>	Maximum Recurrent Peak Reverse Voltage	28 to 288	V	
<b>P<sub>PPM</sub></b>	Peak Pulse Power Dissipation on 10/1000µs Waveform	30	KW	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	400	A	8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum
<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	

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## 30KPA28A - 30KPA288CA

**Notes:** (1) Non-repetitive current pulse, per Fig.3 and derated above TA = 25°C per Fig. 2

### 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 @ VWM	Max. Clamping Voltage @ IPPM	Max. Peak Pulse Current
			VBR	IT (mA)			
Uni-Polar	Bi-Polar	VWM (V)	Min.		ID (μA) (note2)	Vc (V)	IPPM (A) (note1)
30KPA28A	30KPA28CA	28	31.28	50	5000	50.0	606.0
30KPA30A	30KPA30CA	30	33.51	50	5000	55.2	548.9
30KPA33A	30KPA33CA	33	36.90	50	5000	58.5	517.9
30KPA36A	30KPA36CA	36	40.20	50	5000	61.8	490.3
30KPA39A	30KPA39CA	39	43.60	20	2000	67.2	450.9
30KPA42A	30KPA42CA	42	46.90	10	1000	72.0	420.8
30KPA43A	30KPA43CA	43	48.00	10	1000	73.0	415.1
30KPA45A	30KPA45CA	45	50.30	5	250	77.4	391.5
30KPA48A	30KPA48CA	48	53.60	5	150	81.6	371.3
30KPA51A	30KPA51CA	51	57.00	5	50	86.4	350.7
30KPA54A	30KPA54CA	54	60.30	5	20	91.4	331.5
30KPA58A	30KPA58CA	58	64.80	5	20	92.4	327.9
30KPA60A	30KPA60CA	60	67.00	5	15	102.0	297.1
30KPA64A	30KPA64CA	64	71.50	5	10	104.0	291.3
30KPA66A	30KPA66CA	66	73.70	5	2	107.0	283.2
30KPA70A	30KPA70CA	70	78.20	5	2	109.0	278.0
30KPA71A	30KPA71CA	71	79.30	5	2	111.5	271.7
30KPA72A	30KPA72CA	72	80.40	5	2	114.0	265.8
30KPA75A	30KPA75CA	75	83.80	5	2	119.4	253.8
30KPA78A	30KPA78CA	78	87.10	5	2	129.0	234.9
30KPA84A	30KPA84CA	84	93.80	5	2	139.2	217.7
30KPA90A	30KPA90CA	90	100.50	5	2	146.4	207.0
30KPA96A	30KPA96CA	96	107.20	5	2	156.0	194.2
30KPA102A	30KPA102CA	102	113.90	5	2	165.6	183.0

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## 30KPA28A - 30KPA288CA

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.		I <sub>D</sub> (μA) (note2)	V <sub>C</sub> (V)	I <sub>PPM</sub> (A) (note1)
30KPA108A	30KPA108CA	108	120.60	5	2	175.2	172.9
30KPA120A	30KPA120CA	120	134.00	5	2	194.4	155.9
30KPA132A	30KPA132CA	132	147.40	5	2	213.0	142.3
30KPA144A	30KPA144CA	144	160.80	5	2	223.2	135.8
30KPA150A	30KPA150CA	150	167.60	5	2	233.4	129.8
30KPA156A	30KPA156CA	156	174.30	5	2	245.0	123.7
30KPA160A	30KPA160CA	160	178.70	5	2	252.6	120.0
30KPA168A	30KPA168CA	168	187.70	5	2	272.4	111.2
30KPA170A	30KPA170CA	170	189.90	5	2	275.0	110.2
30KPA180A	30KPA180CA	180	201.10	5	2	290.4	104.3
30KPA198A	30KPA198CA	198	221.20	5	2	319.8	94.7
30KPA216A	30KPA216CA	216	241.30	5	2	348.6	86.9
30KPA240A	30KPA240CA	240	268.10	5	2	387.0	78.3
30KPA258A	30KPA258CA	258	288.20	5	2	416.4	72.8
30KPA260A	30KPA260CA	260	290.40	5	2	416.0	72.8
30KPA270A	30KPA270CA	270	301.60	5	2	436.2	69.5
30KPA280A	30KPA280CA	280	312.80	5	2	464.0	65.3
30KPA288A	30KPA288CA	288	321.70	5	2	469.9	64.5

- Note:**
1. Surge current waveform per Fig. 3 and derate per Fig. 2
  2. For Bi-directional types with V<sub>WM</sub> of 10 volts and less, the I<sub>D</sub> limit is doubled.
  3. C suffix for Bidirectional use, A suffix for 5% tolerance.

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## 30KPA28A - 30KPA288CA

### Typical Characteristics Curves

Fig.1- Peak Pulse Power Rating Curve

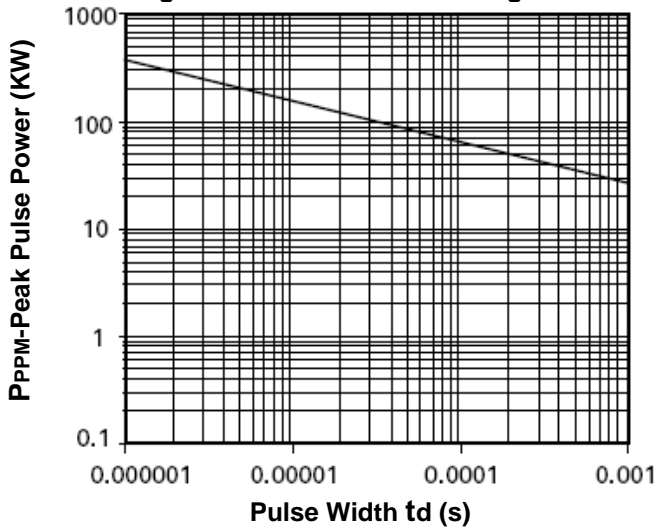


Fig.2- Pulse Derating Curve

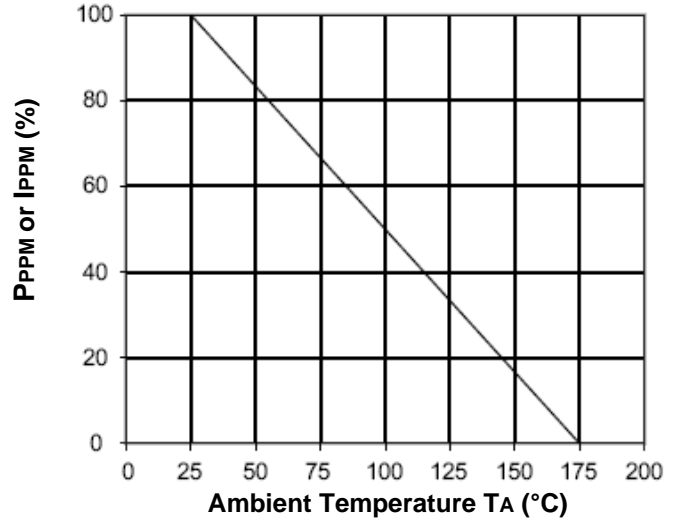


Fig.3- Pulse Waveform

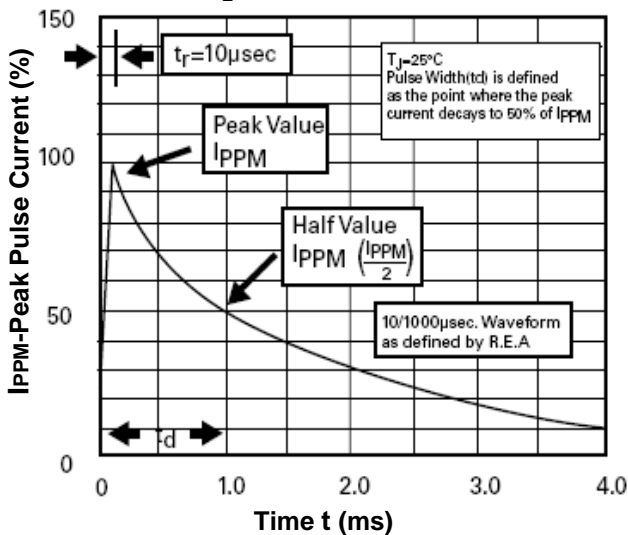
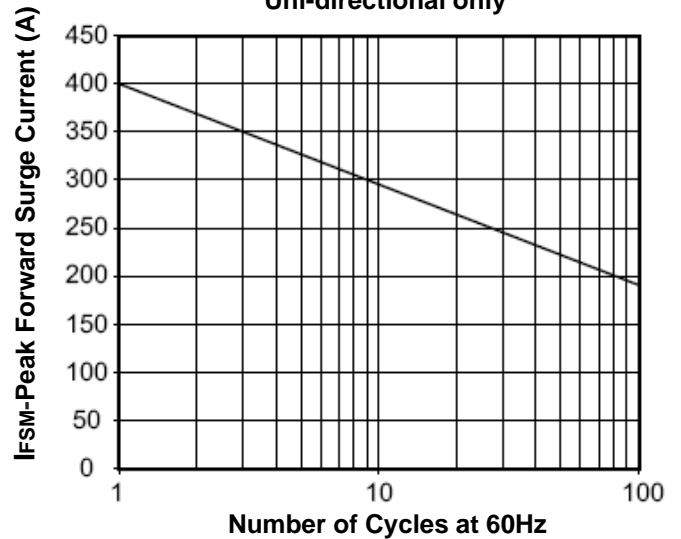


Fig.4- Max. Non-Repetitive Forward Surge Current Uni-directional only



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Fig.5- Steady State Power Derating Curve

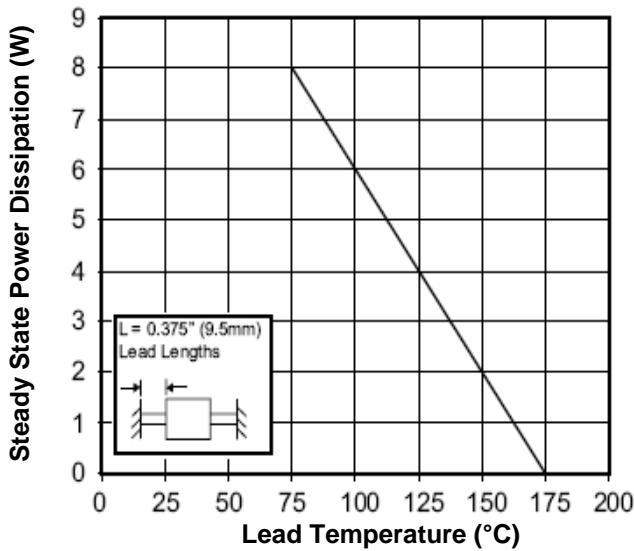
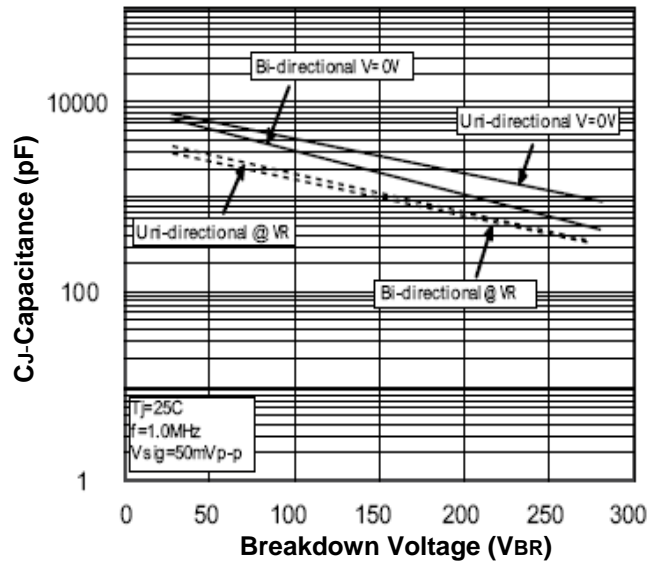
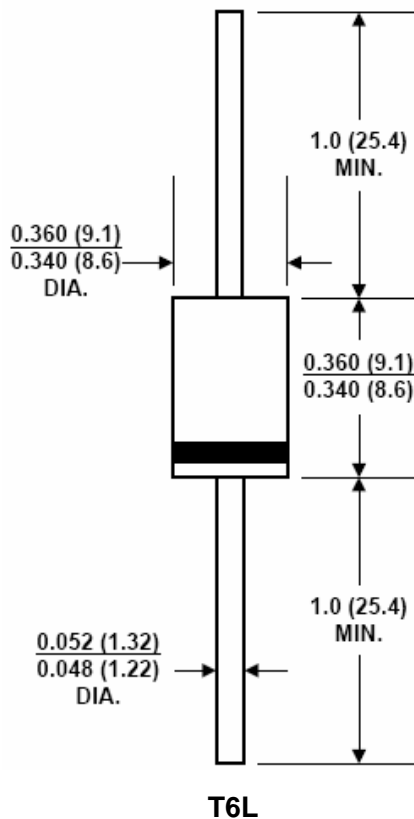


Fig.6- Typical Junction Capacitance



### Dimensions in inch (mm)



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