

**POWER TVS COMPONENT**
**APPLICATIONS**

- ✓ Relay Drives
- ✓ Motor (Start/Stop) Back EMF Protection
- ✓ Module Lightning Protection

**IEC COMPATIBILITY (EN61000-4)**

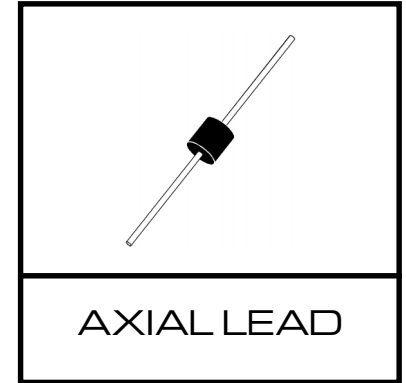
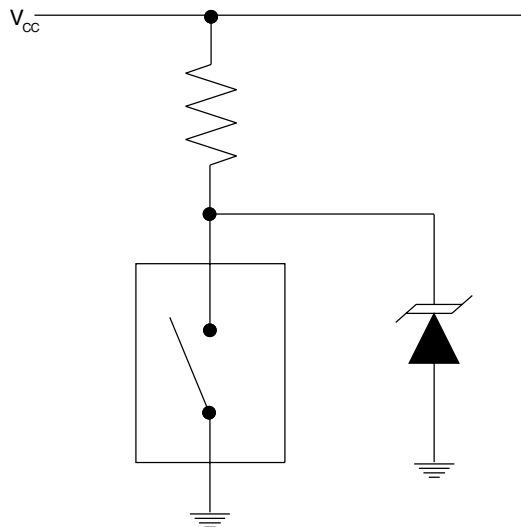
- ✓ 61000-4-5 (Surge): 48A, 8/20 $\mu$ s - L3(Line-Gnd), L1(Power) & L4 (Line-Line)

**FEATURES**

- ✓ 15,000 Watts Peak Pulse Power Dissipation per Line (10/1000 $\mu$ s)
- ✓ Unidirectional & Bidirectional Configurations
- ✓ Easy Mounting to Printed Circuit Boards
- ✓ Available in Voltage Types Ranging From: 17V to 220V

**MECHANICAL CHARACTERISTICS**

- ✓ Molded Case
- ✓ Weight 5 grams (Approximate)
- ✓ Flammability Rating UL 94V-0
- ✓ Positive Terminal Marked with Band - *Unidirectional Devices*
- ✓ Marking: Logo, Part Number & Date Code


**APPLICATION**
**TYPICAL RELAY DRIVE PROTECTION**


# 15KPA17A thru 15KPA220A

## DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation ( $t_p = 10/1000\mu s$ ) - See Fig. 1	$P_{PP}$	15,000	Watts
Forward Surge Rating (1/20 seconds) - See Note 2	$I_F$	200	Amps
Steady State Power Dissipation	$P_D$	1.0	Watts
Storage Temperature	$T_{STG}$	-55 to +150	°C
Operating Temperature	$T_J$	-55 to +150	°C

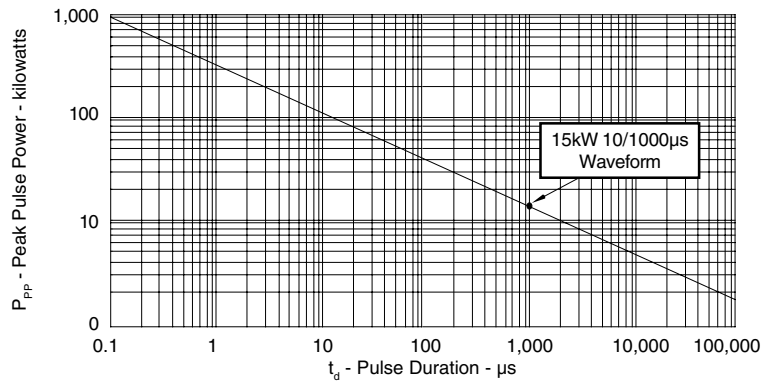
ELECTRICAL CHARACTERISTICS @ 25°C Unless Otherwise Specified						
PART NUMBER (Notes 1 & 2)	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	BREAKDOWN VOLTAGE		MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_D$ $\mu A$	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ 10/1000 $\mu s$ $V_C$ @ $I_{PP}$	TEMPERATURE COEFFICIENT OF $V_{(BR)}$  $\theta V_{(BR)}$ mV/°C
		MIN $V_{(BR)}$ VOLTS	@ $I_T$ mA			
15KPA17A	17.0	18.9	50	5000	29.3V @ 512.0A	17
15KPA20A	20.0	22.2	20	1500	34.3V @ 437.0A	21
15KPA28A	28.0	31.1	5	25	47.5V @ 316.0A	31
15KPA30A	30.0	33.3	5	15	50.7V @ 296.0A	34
15KPA33A	33.0	36.7	5	10	54.8V @ 274.0A	38
15KPA36A	36.0	40.0	5	10	59.7V @ 251.0A	41
15KPA48A	48.0	53.3	5	10	77.7V @ 193.0A	56
15KPA54A	54.0	60.0	5	10	87.5V @ 171.0A	63
15KPA60A	60.0	66.7	5	10	97.3V @ 154.0A	71
15KPA70A	70.0	77.8	5	10	114.0V @ 132.0A	83
15KPA75A	75.0	83.3	5	10	122.0V @ 123.0A	89
15KPA85A	85.0	94.4	5	10	137.0V @ 109.0A	102
15KPA90A	90.0	100.0	5	10	146.0V @ 103.0A	109
15KPA160A	160.0	178.0	5	10	259.0V @ 58.0A	195
15KPA170A	170.0	189.0	5	10	275.0V @ 55.0A	207
15KPA180A	180.0	200.0	5	10	291.0V @ 52.0A	219
15KPA220A	220.0	245.0	5	10	356.0V @ 42.0A	269

**Note 1:** Part numbers shown are unidirectional devices. Add a "CA" suffix to specify bidirectional devices, such as 15KPA20CA. Devices shown are preferred voltages. Contact factory for additional voltages.

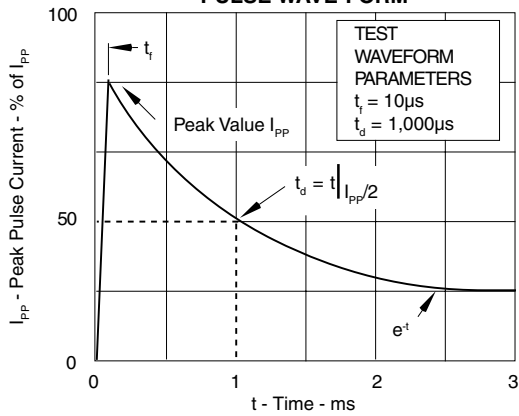
**Note 2:**  $V_F = 7.5$  Volts @ 200A, 8.3ms (1/2 Sine Wave) - unidirectional devices only.

GRAPHS

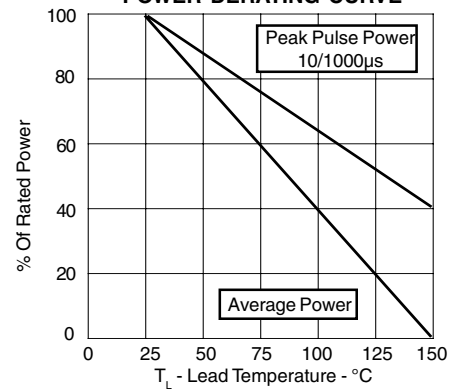
**FIGURE 1  
 PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2  
 PULSE WAVE FORM**

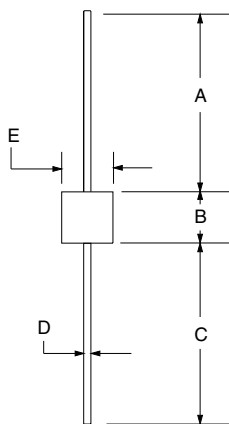
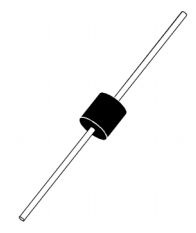


**FIGURE 3  
 POWER DERATING CURVE**



# 15KPA17A thru 15KPA220A

## PACKAGE OUTLINE & DIMENSIONS

<p><b>PACKAGE OUTLINE</b></p> 	<p><b>15KPA</b></p> 																																		
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	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">DIM</th> <th colspan="2">MILLIMETERS</th> <th colspan="2">INCHES</th> </tr> <tr> <th>MIN</th> <th>MAX</th> <th>MIN</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>24.5</td> <td>-</td> <td>1.00</td> <td>-</td> </tr> <tr> <td>B</td> <td>8.60</td> <td>9.10</td> <td>0.34</td> <td>0.36</td> </tr> <tr> <td>C</td> <td>24.5</td> <td>-</td> <td>1.00</td> <td>-</td> </tr> <tr> <td>D</td> <td>1.20 DIA</td> <td>1.30 DIA</td> <td>0.048 DIA</td> <td>0.052 DIA</td> </tr> <tr> <td>E</td> <td>8.60</td> <td>9.10</td> <td>0.34</td> <td>0.36</td> </tr> </tbody> </table>	DIM	MILLIMETERS		INCHES		MIN	MAX	MIN	MAX	A	24.5	-	1.00	-	B	8.60	9.10	0.34	0.36	C	24.5	-	1.00	-	D	1.20 DIA	1.30 DIA	0.048 DIA	0.052 DIA	E	8.60	9.10	0.34	0.36
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<p><b>NOTES:</b> 1. Dimensions are exclusive of mold flash and metal burrs.</p>																																			
<p><b>06028 Rev 0 - 12/01</b></p>																																			

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