



# P6KE6.8(C)A THRU P6KE440(C)A

Breakdown Voltage:6.8-440 Volts Peak Pulse Power:600 Watts

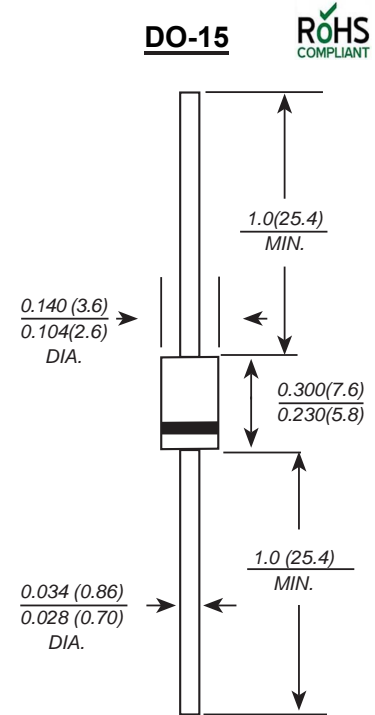
## GLASS PASSIVAED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

### Features

- ◆ 600w peak pulse power capability
- ◆ Excellent clamping capability
- ◆ Low incremental surge resistance
- ◆ Fast response time:typically less than 1.0ps from 0v to VBR for unidirectional and 5.0ns for bidirectional types.
- ◆ High temperature soldering guaranteed:  
265°C/10S/9.5mm lead length at 5 lbs tension

### Mechanical Data

**Case** : JEDEC DO-15 Molded plastic body  
**Terminals** : Solder plated, solderable per MIL-STD-750,Method 2026  
**Polarity** : Polarity symbol marking on body  
**Mounting Position** : Any  
**Weight** : 0.014 ounce, 0.40 grams



Dimensions in inches and (millimeters)

### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

	SYMBOLS	VALUE	UNITS
Peak power dissipation	P <sub>ppm</sub>	Minimum 600	W
peak power dissipation (Note 1)	I <sub>ppm</sub>	See Table 1	A
Steady state power dissipation (Note 2)	P <sub>M(AV)</sub>	5.0	W
Peak forward surge current(Note 3)	I <sub>FSM</sub>	100	A
Maximum instantaneous forward voltage at 50A for unidirectional only (Note 4)	V <sub>F</sub>	3.5/5.0	V
Operating junction and storage temperature range	T <sub>STG</sub> , T <sub>J</sub>	-55 to + 175	°C

#### Notes:

- 1.10/1000μs waveform non-repetitive current pulse, per Fig.3 and derated above Ta=25°C per Fig.2
- 2.T<sub>L</sub>=75°C, lead lengths 9.5mm, Mounted on copper pad area of (40x40mm) Fig.5
- 3.Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.
- 4.V<sub>F</sub>=3.5V max. for devices of V<sub>(BR)</sub>≤200V, and V<sub>F</sub>=5.0V max. for devices of V<sub>(BR)</sub>>200V



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## ELECTRICAL CHARACTERISTICS (at TA=25°C unless otherwise noted)

Device Type	Breakdown Voltage V <sub>(BR)</sub> (Volts)(NOTES 1)		Test Current I <sub>T</sub> (mA)	Stand-off Voltage V <sub>WM</sub> (Volts)	Maximum Reverse Leakage at V <sub>WM</sub> I <sub>D</sub> (NOTE3)(μA)	Maximum Peak Pulse Reverse Current I <sub>PPM</sub> (NOTE2) (Amps)	Maximum Clamping Voltage at I <sub>PPM</sub> V <sub>c</sub> (Volts)	Maximum Temperature Coefficient of V <sub>(BR)</sub> (%/°C)
	MIN	MAX						
P6KE6.8A	6.45	7.14	10.0	5.80	1000.0	57.1	10.5	0.057
P6KE6.8CA	6.45	7.14	10.0	5.80	1000.0	57.1	10.5	0.057
P6KE7.5A	7.13	7.88	1.0	6.40	500.0	53.1	11.3	0.061
P6KE7.5CA	7.13	7.88	1.0	6.40	500.0	53.1	11.3	0.061
P6KE8.2A	7.79	8.61	1.0	7.02	200.0	49.6	12.1	0.065
P6KE8.2CA	7.79	8.61	1.0	7.02	200.0	49.6	12.1	0.065
P6KE9.1A	8.65	9.55	1.0	7.78	50.0	44.8	13.4	0.068
P6KE9.1CA	8.65	9.55	1.0	7.78	50.0	44.8	13.4	0.068
P6KE10A	9.50	10.5	1.0	8.55	10.0	41.4	14.5	0.073
P6KE10CA	9.50	10.5	1.0	8.55	10.0	41.4	14.5	0.073
P6KE11A	10.5	11.6	1.0	9.40	5.0	38.5	15.6	0.075
P6KE11CA	10.5	11.6	1.0	9.40	5.0	38.5	15.6	0.075
P6KE12A	11.4	12.6	1.0	10.2	5.0	35.9	16.7	0.078
P6KE12CA	11.4	12.6	1.0	10.2	5.0	35.9	16.7	0.078
P6KE13A	12.4	13.7	1.0	11.1	5.0	33.0	18.2	0.081
P6KE13CA	12.4	13.7	1.0	11.1	5.0	33.0	18.2	0.081
P6KE15A	14.3	15.8	1.0	12.8	5.0	28.3	21.2	0.084
P6KE15CA	14.3	15.8	1.0	12.8	5.0	28.3	21.2	0.084
P6KE16A	15.2	16.8	1.0	13.6	5.0	26.7	22.5	0.086
P6KE16CA	15.2	16.8	1.0	13.6	5.0	26.7	22.5	0.086
P6KE18A	17.1	18.9	1.0	15.3	5.0	23.8	25.2	0.088
P6KE18CA	17.1	18.9	1.0	15.3	5.0	23.8	25.2	0.088
P6KE20A	19.0	21.0	1.0	17.1	5.0	21.7	27.7	0.090
P6KE20CA	19.0	21.0	1.0	17.1	5.0	21.7	27.7	0.090
P6KE22A	20.9	23.1	1.0	18.8	5.0	19.6	30.6	0.092
P6KE22CA	20.9	23.1	1.0	18.8	5.0	19.6	30.6	0.092
P6KE24A	22.8	25.2	1.0	20.5	5.0	18.1	33.2	0.094
P6KE24CA	22.8	25.2	1.0	20.5	5.0	18.1	33.2	0.094
P6KE27A	25.7	28.4	1.0	23.1	5.0	16.0	37.5	0.096
P6KE27CA	25.7	28.4	1.0	23.1	5.0	16.0	37.5	0.096
P6KE30A	28.5	31.5	1.0	25.6	5.0	14.5	41.4	0.097
P6KE30CA	28.5	31.5	1.0	25.6	5.0	14.5	41.4	0.097
P6KE33A	31.4	34.7	1.0	28.2	5.0	13.1	45.7	0.098
P6KE33CA	31.4	34.7	1.0	28.2	5.0	13.1	45.7	0.098
P6KE36A	34.2	37.8	1.0	30.8	5.0	12.0	49.9	0.099
P6KE36CA	34.2	37.8	1.0	30.8	5.0	12.0	49.9	0.099
P6KE39A	37.1	41.0	1.0	33.3	5.0	11.1	53.9	0.100
P6KE39CA	37.1	41.0	1.0	33.3	5.0	11.1	53.9	0.100
P6KE43A	40.9	45.2	1.0	36.8	5.0	10.1	59.3	0.101
P6KE43CA	40.9	45.2	1.0	36.8	5.0	10.1	59.3	0.101
P6KE47A	44.7	49.4	1.0	40.2	5.0	9.3	64.8	0.101
P6KE47CA	44.7	49.4	1.0	40.2	5.0	9.3	64.8	0.101
P6KE51A	48.5	53.6	1.0	43.6	5.0	8.6	70.1	0.102
P6KE51CA	48.5	53.6	1.0	43.6	5.0	8.6	70.1	0.102
P6KE56A	53.2	58.8	1.0	47.8	5.0	7.8	77.0	0.103
P6KE56CA	53.2	58.8	1.0	47.8	5.0	7.8	77.0	0.103

The electrical characteristics above is for reference only.



# P6KE6.8(C)A THRU P6KE440(C)A

Breakdown Voltage:6.8-440 Volts Peak Pulse Power:600 Watts

## ELECTRICAL CHARACTERISTICS (at TA=25°C unless otherwise noted)

Device Type	Breakdown Voltage V <sub>(BR)</sub> (Volts)(NOTES 1)		Test Current I <sub>T</sub> (mA)	Stand-off Voltage V <sub>WM</sub> (Volts)	Maximum Reverse Leakage at V <sub>WM</sub> I <sub>D</sub> (NOTE3)(μA)	Maximum Peak Pulse Reverse Current I <sub>PPM</sub> (NOTE2) (Amps)	Maximum Clamping Voltage at I <sub>PPM</sub> V <sub>C</sub> (Volts)	Maximum Temperature Coefficient of V <sub>(BR)</sub> (%/ °C)
	MIN	MAX						
P6KE62A	58.9	65.1	1.0	53.0	5.0	7.1	85.0	0.104
P6KE62CA	58.9	65.1	1.0	53.0	5.0	7.1	85.0	0.104
P6KE68A	64.6	71.4	1.0	58.1	5.0	6.5	92.0	0.104
P6KE68CA	64.6	71.4	1.0	58.1	5.0	6.5	92.0	0.104
P6KE75A	71.3	78.8	1.0	64.1	5.0	5.8	103	0.105
P6KE75CA	71.3	78.8	1.0	64.1	5.0	5.8	103	0.105
P6KE82A	77.9	86.1	1.0	70.1	5.0	5.3	113	0.105
P6KE82CA	77.9	86.1	1.0	70.1	5.0	5.3	113	0.105
P6KE91A	86.5	95.5	1.0	77.8	5.0	4.8	125	0.106
P6KE91CA	86.5	95.5	1.0	77.8	5.0	4.8	125	0.106
P6KE100A	95.0	105	1.0	85.5	5.0	4.4	137	0.106
P6KE100CA	95.0	105	1.0	85.5	5.0	4.4	137	0.106
P6KE110A	105	116	1.0	94.0	5.0	3.9	152	0.107
P6KE110CA	105	116	1.0	94.0	5.0	3.9	152	0.107
P6KE120A	114	126	1.0	102	5.0	3.6	165	0.107
P6KE120CA	114	126	1.0	102	5.0	3.6	165	0.107
P6KE130A	124	137	1.0	111	5.0	3.4	179	0.107
P6KE130CA	124	137	1.0	111	5.0	3.4	179	0.107
P6KE150A	143	158	1.0	128	5.0	2.9	207	0.108
P6KE150CA	143	158	1.0	128	5.0	2.9	207	0.108
P6KE160A	152	168	1.0	136	5.0	2.7	219	0.108
P6KE160CA	152	168	1.0	136	5.0	2.7	219	0.108
P6KE170A	162	179	1.0	145	5.0	2.6	234	0.108
P6KE170CA	162	179	1.0	145	5.0	2.6	234	0.108
P6KE180A	171	189	1.0	154	5.0	2.4	246	0.108
P6KE180CA	171	189	1.0	154	5.0	2.4	246	0.108
P6KE200A	190	210	1.0	171	5.0	2.2	274	0.108
P6KE200CA	190	210	1.0	171	5.0	2.2	274	0.108
P6KE220A	209	231	1.0	185	5.0	1.8	328	0.108
P6KE220CA	209	231	1.0	185	5.0	1.8	328	0.108
P6KE250A	237	263	1.0	214	5.0	1.7	344	0.110
P6KE250CA	237	263	1.0	214	5.0	1.7	344	0.110
P6KE300A	285	315	1.0	256	5.0	1.4	414	0.110
P6KE300CA	285	315	1.0	256	5.0	1.4	414	0.110
P6KE350A	332	368	1.0	300	5.0	1.2	482	0.110
P6KE350CA	332	368	1.0	300	5.0	1.2	482	0.110
P6KE400A	380	420	1.0	342	5.0	1.1	548	0.110
P6KE400CA	380	420	1.0	342	5.0	1.1	548	0.110
P6KE440A	418	462	1.0	376	5.0	1.0	602	0.110
P6KE440CA	418	462	1.0	376	5.0	1.0	602	0.110

**NOTES:**

1. V<sub>(BR)</sub> measured after I<sub>T</sub> applied for 300μs, I<sub>T</sub>=square wave pulse or equivalent
2. Surge current waveform per Fig.3 and derated per Fig.2
3. For bidirectional types having V<sub>WM</sub> of 10 volts and less, the I<sub>D</sub> limit is doubled
4. All items and symbols are consistent with ANSI/IEEE C62.35

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# P6KE6.8(C)A THRU P6KE440(C)A

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FIG. 1-PEAK PULSE POWER RATING CURVE

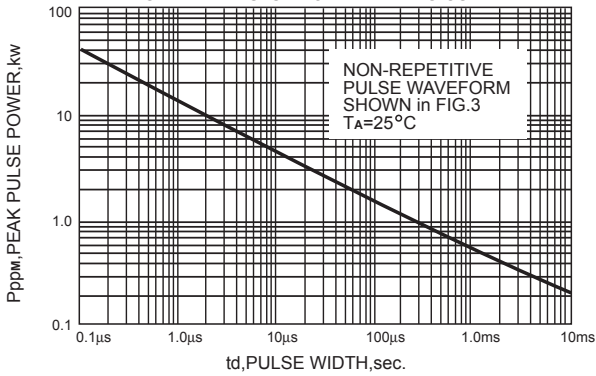


FIG. 2-PULSE DERATING CURVE

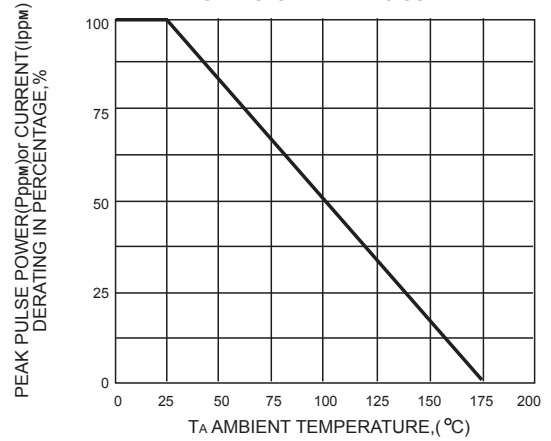


FIG.3-PULSE WAVEFORM

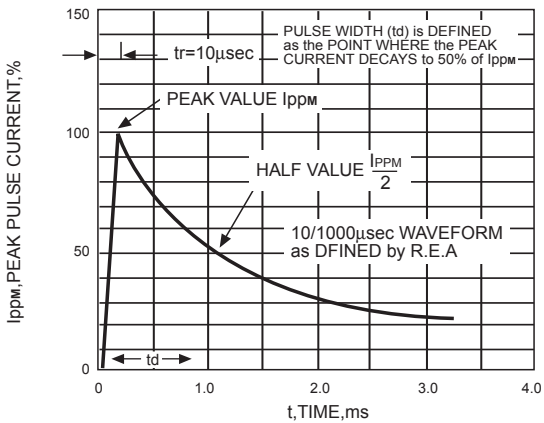


FIG. 4-TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

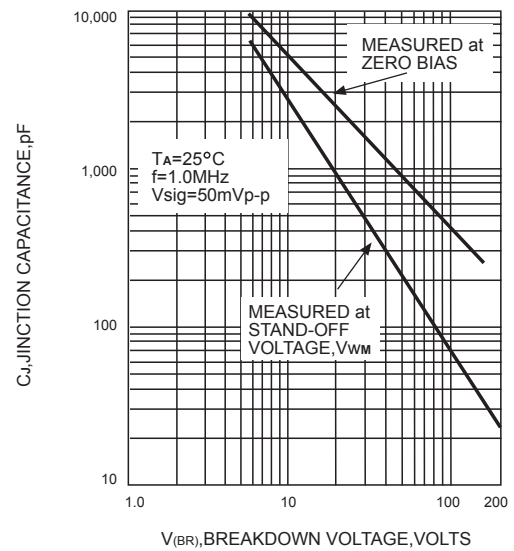


FIG.5-STEADY STATE POWER DERATING CURVE

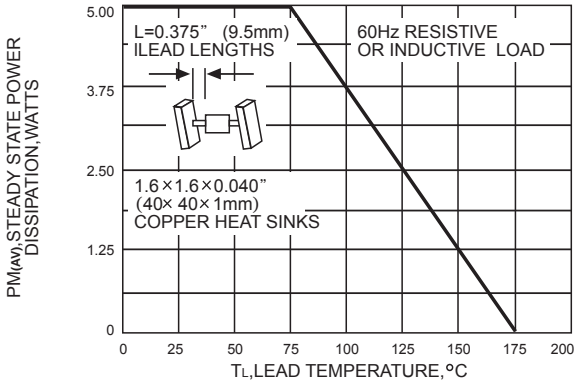


FIG.6-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

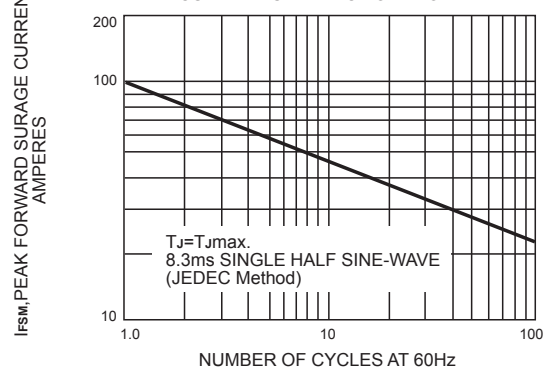
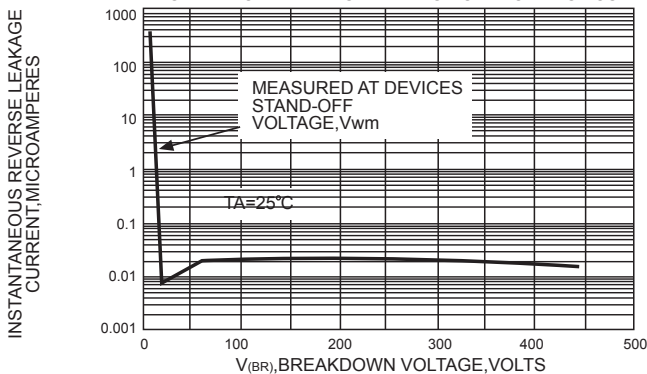


FIG.7-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



The curve characteristics above is for reference only.