

**P6KE6.8(A)      THRU      P6KE440(A)**  
**P6KE6.8C(CA)    THRU      P6KE440C(CA)**  
**GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR**  
**VOLTAGE -6.8 TO 440 VOLTS    600 WATT PEAK POWER**

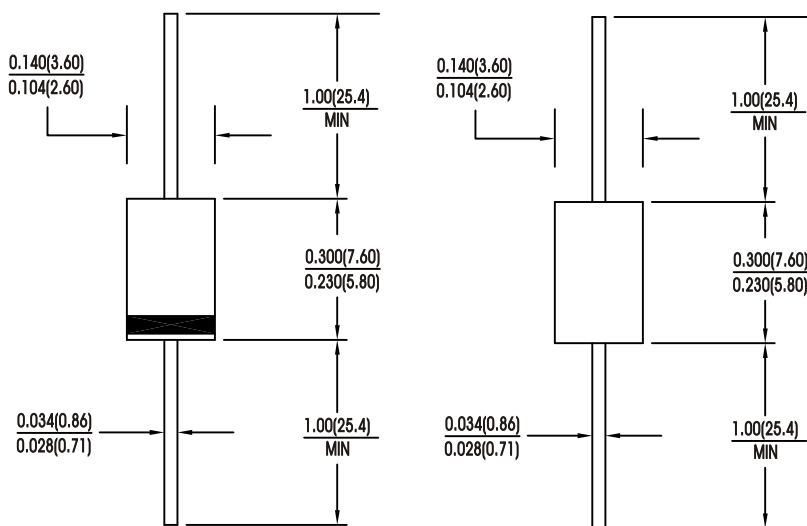
**FEATURES:**

- Plastic package has Underwrites Laboratory Flammability Classification 94V-0
- Glass passivated chip junction in DO-15 Package 600 W surge capability at 1 ms
- Excellent clamping capability
- Low zener impedance
- Fast response time : typical less than 1.0 ps from 0 volts to BV min
- Typical  $I_R$  less than 1uA above 10V
- High temperature soldering guaranteed : 265°C /10 seconds/0.375"(9.5mm) lead length/5lbs.,(2.3kg) tension
- For Bidirectional use C or CA Suffix for types

**MECHANICAL DATA**

Case: JEDEC DO-15 molded plastic  
 Terminals: Axial leads, Solderable per MIL-STD-202, Method 208  
 Polarity: Color band denoted cathode except Bipolar  
 Mounting Position: Any  
 Weight: 0.015 ounce, 0.40 grams

**DO-15**



Suffix " ", "A"  
 UNIDIRECTIONAL

Suffix "C", "CA"  
 DIRECTIONAL

Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Rating at 25° C ambient temp. unless otherwise specified.  
 Single phase, half sine wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20 %.

Characteristic	Symbol	Value	Units
Minimum Peak Power Dissipation at $T_a=25^\circ\text{C}$ , $T_p = 1\text{ms}$ (NOTE1)	$P_{PPM}$	600	W
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths 0.375", (9.5mm) (note 2)	$P_D$	5.0	W
Maximum Peak pulse current	$I_{PPM}$	SEE TABLE 1-2	Amps
Maximum Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on rated load (Jedec Method)	$I_{FSM}$	100	Amps
Operating and Storage temperature range	$T_J, T_{stg}$	-65 to +175	°C

NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_a=25^\circ\text{C}$  per Fig.2
2. Mounted on Copper Lead area of 1.57in<sup>2</sup> (40mm<sup>2</sup>)

# RATINGS AND CHARACTERISTIC CURVES P6KE6.8(C)A THRU P6KE440(C)A

FIGURE 1-PEAK PULSEPOWER RATING VERSUS PULSE TIME CURVE

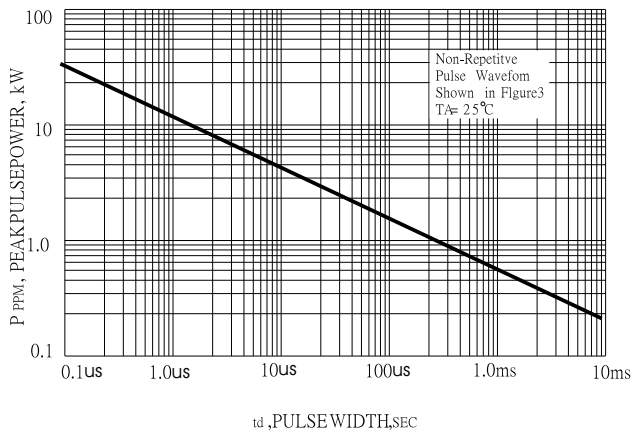


FIGURE 2-PULSE DERATING CURVE

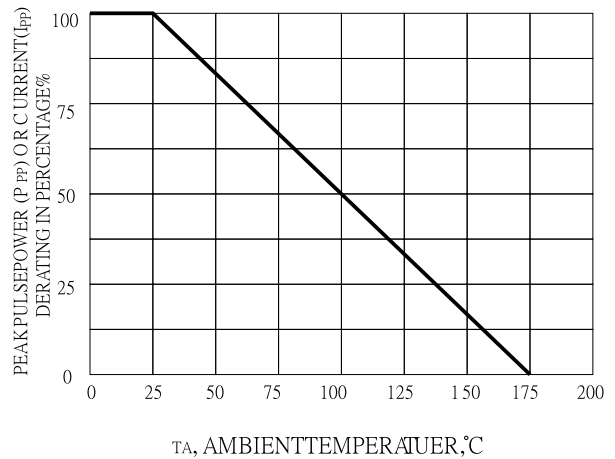


FIGURE 3-PULSE WAVEFORM

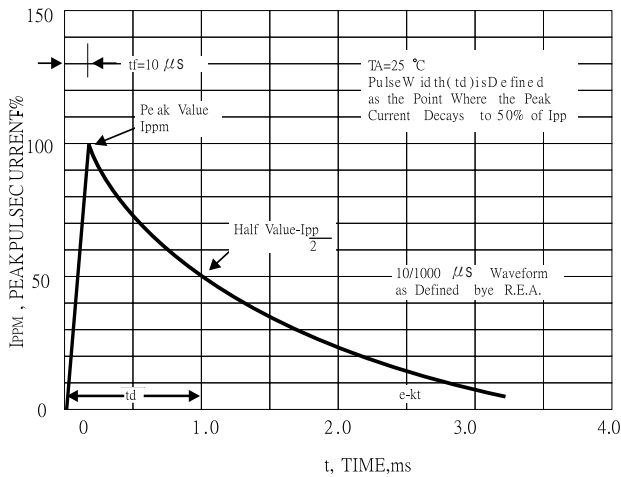


FIG. 4- TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

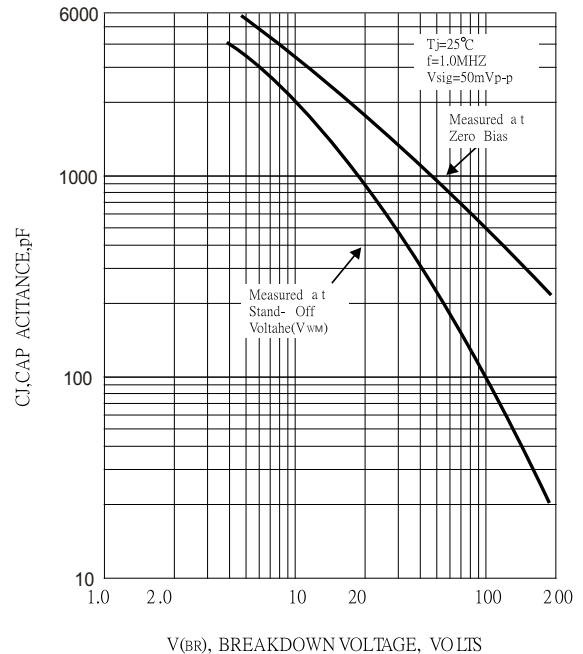


FIG. 5-STEADY STATE POWER DERATING CURVE

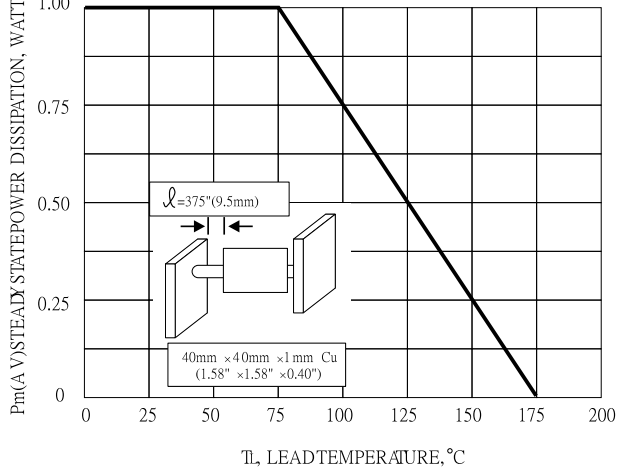
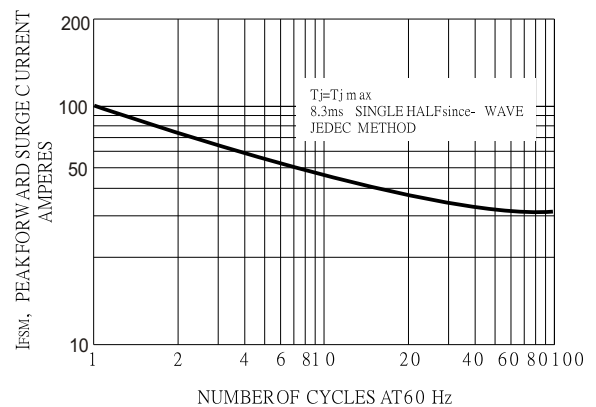


FIG. 6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL



# 600 WATT AXIAL LEAD TVS P6KE6.8(A)(C)(CA) THRU P6KE440(A)(C)(CA)

**Table 1**

Part Number	V <sub>RWM</sub>	V <sub>BR</sub> @ I <sub>T</sub>			I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>		PACKAGE
		Min.	Max.	I <sub>T</sub>	UNI-	BI-	Volts	A	
	V	V	V	mA	uA	uA			
600W Transient Voltage Suppressor									
P6KE6.8(C)	5.50	6.12	7.48	10	1000	2000	10.8	56.0	DO-15
P6KE6.8(C)A	5.80	6.45	7.14	10	1000	2000	10.5	57.0	DO-15
P6KE7.5(C)	6.05	6.75	8.25	10	500	1000	11.7	51.0	DO-15
P6KE7.5(C)A	6.40	7.13	7.88	10	500	1000	11.3	53.0	DO-15
P6KE8.2(C)	6.63	7.38	9.02	10	200	400	12.5	48.0	DO-15
P6KE8.2(C)A	7.02	7.79	8.61	10	200	400	12.1	50.0	DO-15
P6KE9.1(C)	7.37	8.19	10.0	1.0	50	100	13.8	44.0	DO-15
P6KE9.1(C)A	7.78	8.65	9.50	1.0	50	100	13.4	45.0	DO-15
P6KE10(C)	8.10	9.00	11.0	1.0	10	20	15.0	40.0	DO-15
P6KE10(C)A	8.55	9.50	10.5	1.0	10	20	14.5	41.0	DO-15
P6KE11(C)	8.92	9.90	12.1	1.0	5	10	16.2	37.0	DO-15
P6KE11(C)A	9.40	10.5	11.6	1.0	5	10	15.6	38.0	DO-15
P6KE12(C)	9.72	10.8	13.2	1.0	5	5	17.3	35.0	DO-15
P6KE12(C)A	10.2	11.4	12.6	1.0	5	5	16.7	36.0	DO-15
P6KE13(C)	10.5	11.7	14.3	1.0	5	5	19.0	32.0	DO-15
P6KE13(C)A	11.1	12.4	13.7	1.0	5	5	18.2	33.0	DO-15
P6KE15(C)	12.1	13.5	16.5	1.0	5	5	22.0	27.0	DO-15
P6KE15(C)A	12.8	14.3	15.8	1.0	5	5	21.2	28.0	DO-15
P6KE16(C)	12.9	14.4	17.6	1.0	5	5	23.5	26.0	DO-15
P6KE16(C)A	13.6	15.2	16.8	1.0	5	5	22.5	27.0	DO-15
P6KE18(C)	14.5	16.2	19.8	1.0	5	5	26.5	23.0	DO-15
P6KE18(C)A	15.3	17.1	18.9	1.0	5	5	25.2	24.0	DO-15
P6KE20(C)	16.2	18.0	22.0	1.0	5	5	29.1	21.0	DO-15
P6KE20(C)A	17.1	19.0	21.0	1.0	5	5	27.7	22.0	DO-15
P6KE22(C)	17.8	19.8	24.2	1.0	5	5	31.9	19.0	DO-15
P6KE22(C)A	18.8	20.9	23.1	1.0	5	5	30.6	20.0	DO-15
P6KE24(C)	19.4	21.6	26.4	1.0	5	5	34.7	17.0	DO-15
P6KE24(C)A	20.5	22.8	25.2	1.0	5	5	33.2	18.0	DO-15
P6KE27(C)	21.8	24.3	29.7	1.0	5	5	39.1	15.0	DO-15
P6KE27(C)A	23.1	25.7	28.4	1.0	5	5	37.5	16.0	DO-15
P6KE30(C)	24.3	27.0	33.0	1.0	5	5	43.5	14.0	DO-15
P6KE30(C)A	25.6	28.5	31.5	1.0	5	5	41.4	14.4	DO-15
P6KE33(C)	26.8	29.7	36.3	1.0	5	5	47.7	12.6	DO-15
P6KE33(C)A	28.2	31.4	34.7	1.0	5	5	45.7	13.2	DO-15
P6KE36(C)	29.1	32.4	39.6	1.0	5	5	52.0	11.6	DO-15
P6KE36(C)A	30.8	34.2	37.8	1.0	5	5	49.9	12.0	DO-15
P6KE39(C)	31.6	35.1	42.9	1.0	5	5	56.4	10.6	DO-15
P6KE39(C)A	33.3	37.1	41.0	1.0	5	5	53.9	11.2	DO-15
P6KE43(C)	34.8	38.7	47.3	1.0	5	5	61.9	9.6	DO-15
P6KE43(C)A	36.8	40.9	45.2	1.0	5	5	59.3	10.1	DO-15
P6KE47(C)	38.1	42.3	51.7	1.0	5	5	67.8	8.9	DO-15
P6KE47(C)A	40.2	44.7	49.4	1.0	5	5	64.8	9.3	DO-15

## 600 WATT AXIAL LEAD TVS P6KE6.8(A)(C)(CA) THRU P6KE440(A)(C)(CA)

**Table 2**

Part Number	V <sub>RWM</sub>	V <sub>BR</sub> @ I <sub>T</sub>			I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>		PACKAGE
		Min.	Max.	I <sub>T</sub>	UNI-	BI-	Volts	A	
	V	V	V	mA	μA	μA			
600W Transient Voltage Suppressor									
P6KE51(C)	41.3	45.9	56.1	1.0	5	5	73.5	8.2	DO-15
P6KE51(C)A	43.6	48.5	53.6	1.0	5	5	70.1	8.6	DO-15
P6KE56(C)	45.6	50.4	61.6	1.0	5	5	80.5	7.4	DO-15
P6KE56(C)A	47.8	53.2	58.8	1.0	5	5	77.0	7.6	DO-15
P6KE62(C)	50.2	55.8	68.2	1.0	5	5	89.0	6.8	DO-15
P6KE62(C)A	53.0	58.9	65.1	1.0	5	5	85.0	7.1	DO-15
P6KE68(C)	55.1	61.2	74.8	1.0	5	5	98.0	6.1	DO-15
P6KE68(C)A	58.1	64.6	71.4	1.0	5	5	92.0	6.5	DO-15
P6KE75(C)	60.7	67.5	82.5	1.0	5	5	108	5.5	DO-15
P6KE75(C)A	64.1	71.3	78.8	1.0	5	5	103	5.8	DO-15
P6KE82(C)	66.4	73.8	90.2	1.0	5	5	118	5.1	DO-15
P6KE82(C)A	70.1	77.9	86.1	1.0	5	5	113	5.3	DO-15
P6KE91(C)	73.7	81.9	100	1.0	5	5	131	4.5	DO-15
P6KE91(C)A	77.8	86.5	95.5	1.0	5	5	125	4.8	DO-15
P6KE100(C)	81.0	90.0	110	1.0	5	5	144	4.2	DO-15
P6KE100(C)A	85.5	95.0	105	1.0	5	5	137	4.4	DO-15
P6KE110(C)	89.2	99.0	121	1.0	5	5	158	3.8	DO-15
P6KE110(C)A	94.0	105	116	1.0	5	5	152	4.0	DO-15
P6KE120(C)	97.2	108	132	1.0	5	5	173	3.5	DO-15
P6KE120(C)A	102	114	126	1.0	5	5	165	3.6	DO-15
P6KE130(C)	105	117	143	1.0	5	5	187	3.2	DO-15
P6KE130(C)A	111	124	137	1.0	5	5	179	3.3	DO-15
P6KE150(C)	121	135	165	1.0	5	5	215	2.8	DO-15
P6KE150(C)A	128	143	158	1.0	5	5	207	2.9	DO-15
P6KE160(C)	130	144	176	1.0	5	5	230	2.6	DO-15
P6KE160(C)A	136	152	168	1.0	5	5	219	2.7	DO-15
P6KE170(C)	138	153	187	1.0	5	5	244	2.5	DO-15
P6KE170(C)A	145	162	179	1.0	5	5	234	2.6	DO-15
P6KE180(C)	146	162	198	1.0	5	5	258	2.3	DO-15
P6KE180(C)A	154	171	189	1.0	5	5	246	2.4	DO-15
P6KE200(C)	162	180	220	1.0	5	5	287	2.1	DO-15
P6KE200(C)A	171	190	210	1.0	5	5	274	2.2	DO-15
P6KE220(C)	175	198	242	1.0	5	5	344	1.8	DO-15
P6KE220(C)A	185	209	231	1.0	5	5	328	1.9	DO-15
P6KE250(C)	202	225	275	1.0	5	5	360	1.7	DO-15
P6KE250(C)A	214	237	263	1.0	5	5	344	1.8	DO-15
P6KE300(C)	243	270	330	1.0	5	5	430	1.4	DO-15
P6KE300(C)A	256	285	315	1.0	5	5	414	1.5	DO-15
P6KE350(C)	284	315	385	1.0	5	5	504	1.2	DO-15
P6KE350(C)A	300	332	368	1.0	5	5	482	1.3	DO-15
P6KE400(C)	324	360	440	1.0	5	5	574	1.05	DO-15
P6KE400(C)A	342	380	420	1.0	5	5	548	1.10	DO-15
P6KE440(C)	356	396	484	1.0	5	5	631	0.99	DO-15
P6KE440(C)A	376	418	462	1.0	5	5	600	1.04	DO-15