



Transient Voltage Suppressors

P6KE6.8(C)A - P6KE440(C)A

Features

- Glass passivated junction.
- 600W Peak Pulse Power capability at 1.0 ms.
- Excellent clamping capability.
- Low incremental surge resistance.
- Fast response time; typically less than 1.0 ps from 0 volts to BV for unidirectional and 5.0 ns for bidirectional.
- Typical I_R less than 1.0 μ A above 10V.



DO-15

COLOR BAND DENOTES CATHODE
ON UNIDIRECTIONAL DEVICES ONLY. NO
COLOR BAND ON BIDIRECTIONAL DEVICES.

DEVICES FOR BIPOLAR APPLICATIONS

- Bidirectional types use CA suffix.
- Electrical Characteristics apply in both directions.

600 Watt Transient Voltage Suppressors

Absolute Maximum Ratings*

$T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
P_{PPM}	Peak Pulse Power Dissipation at $T_p=1\text{ms}$	600	W
I_{PPM}	Peak Pulse Current	see table	A
P_D	Power Dissipation .375 " lead length @ $T_A = 75^\circ\text{C}$	5.0	W
I_{FSM}	Non-repetitive Peak Forward Surge Current superimposed on rated load (JEDEC method) (Note 1)	100	A
T_{stg}	Storage Temperature Range	-65 to +175	$^\circ\text{C}$
T_J	Operating Junction Temperature	+ 175	$^\circ\text{C}$

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Note 1: Measured on 8.3 ms single half-sine wave; Duty cycle = 4 pulses per minute maximum.

Transient Voltage Suppressors

(continued)

Electrical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

Uni-directional Bi-directional (C) Device	Reverse Stand-off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V)		Test Current I_T (mA)	Clamping Voltage @ I_{PPM} V_c (V)	Peak Pulse Current I_{PPM} (A)	Reverse Leakage V_{RWM} I_R (uA)*
		min	Max				
P6KE6.8(C)A	5.80	6.45	7.14	10	10.5	57.1	1000
P6KE7.5(C)A	6.40	7.13	7.88	1	11.3	53.1	500
P6KE8.2(C)A	7.02	7.79	8.61	1	12.1	50.0	200
P6KE9.1(C)A	7.78	8.65	9.55	1	13.4	45.0	50
P6KE10(C)A	8.55	9.50	10.5	1	14.5	41.0	10
P6KE11(C)A	9.4	10.5	11.6	1	15.6	38.0	5
P6KE12(C)A	10.2	11.4	12.6	1	16.7	36.0	5
P6KE13(C)A	11.1	12.4	13.7	1	18.2	33.0	5
P6KE15(C)A	12.8	14.3	15.8	1	21.2	28.0	5
P6KE16(C)A	13.6	15.2	16.8	1	22.5	27.0	5
P6KE18(C)A	15.3	17.1	18.9	1	25.2	24.0	5
P6KE20(C)A	17.1	19.0	21.0	1	27.7	22.0	5
P6KE22(C)A	18.8	20.9	23.1	1	30.6	20.0	5
P6KE24(C)A	20.5	22.8	25.2	1	33.2	18.1	5
P6KE27(C)A	23.1	25.7	28.4	1	37.5	16.0	5
P6KE30(C)A	25.6	28.5	31.5	1	41.4	14.5	5
P6KE33(C)A	28.2	31.4	34.7	1	45.7	13.2	5
P6KE36(C)A	30.8	34.2	37.8	1	49.9	12.0	5
P6KE39(C)A	33.3	37.1	41.0	1	53.9	11.2	5
P6KE43(C)A	36.8	40.9	45.2	1	59.3	10.1	5
P6KE47(C)A	40.2	44.7	49.4	1	64.8	9.3	5
P6KE51(C)A	43.6	48.5	53.6	1	70.1	8.6	5
P6KE56(C)A	47.8	53.2	58.8	1	77.0	7.8	5
P6KE62(C)A	53.0	58.9	65.1	1	85.0	7.1	5
P6KE68(C)A	58.1	64.6	71.4	1	92.0	6.5	5
P6KE75(C)A	64.1	71.3	78.8	1	103.0	5.8	5
P6KE82(C)A	70.1	77.9	86.1	1	113.0	5.3	5
P6KE91(C)A	77.8	86.5	95.5	1	125.0	4.8	5
P6KE100(C)A	85.5	95.0	105.0	1	137.0	4.4	5
P6KE110(C)A	94.0	105.0	116.0	1	152.0	4.0	5
P6KE120(C)A	102.0	114.0	126.0	1	165.0	3.6	5
P6KE130(C)A	111.0	124.0	137.0	1	179.0	3.4	5
P6KE150(C)A	128.0	143.0	158.0	1	207.0	2.9	5
P6KE160(C)A	136.0	152.0	168.0	1	219.0	2.7	5
P6KE170(C)A	145.0	162.0	179.0	1	234.0	2.6	5
P6KE180(C)A	154.0	171.0	189.0	1	246.0	2.4	5
P6KE200(C)A	171.0	190.0	210.0	1	274.0	2.2	5
P6KE220(C)A	185.0	209.0	231.0	1	328.0	1.9	5
P6KE250(C)A	214.0	237.0	263.0	1	344.0	1.8	5
P6KE300(C)A	256.0	285.0	315.0	1	414.0	1.5	5
P6KE350(C)A	300.0	332.0	368.0	1	482.0	1.3	5
P6KE400(C)A	342.0	380.0	420.0	1	548.0	1.1	5
P6KE440(C)A	376.0	418.0	462.0	1	602.0	1.0	5

* For bidirectional parts with $V_{RWM} < 10\text{V}$, the I_R max limit is doubled.

Transient Voltage Suppressors
(continued)

Typical Characteristics

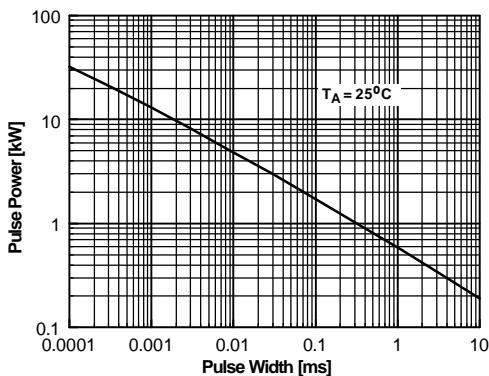


Figure 1. Peak Pulse Power Rating Curve

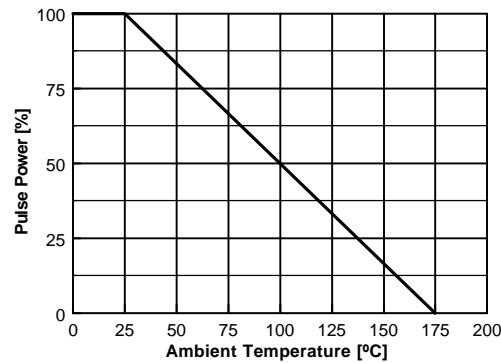


Figure 2. Pulse Derating Curve

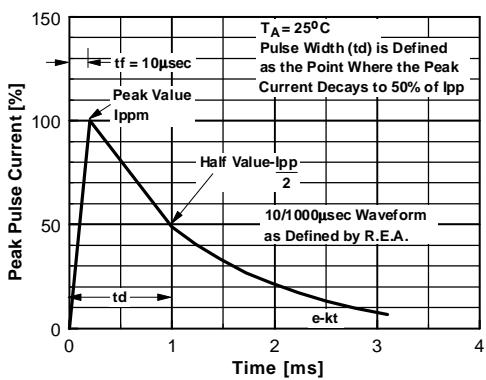


Figure 3. Pulse Waveform

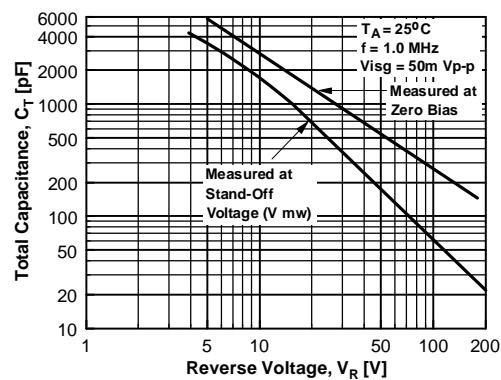


Figure 4. Total Capacitance - Unidirectional

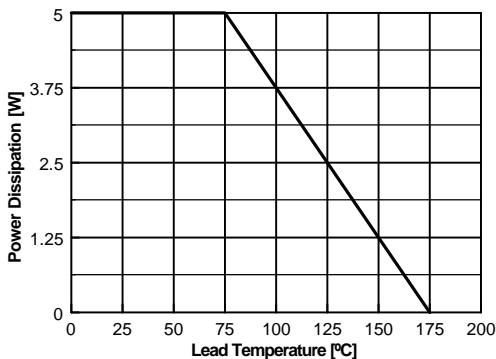


Figure 5. Steady State Power Derating Curve

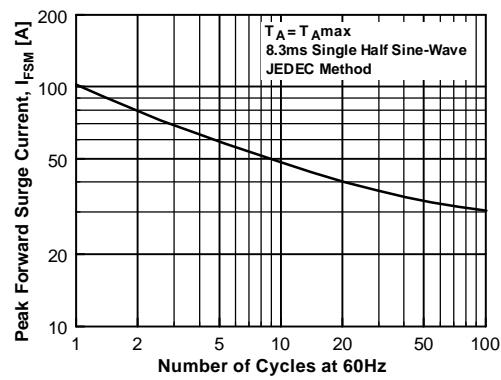


Figure 6. Non-Repetitive Surge Current

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