

P6KE6.8(A) THRU P6KE440(A)

P6KE6.8C(CA) THRU P6KE440C(CA)

600 WATT PEAK POWER TRANSIENT VOLTAGE SUPPRESSORS



FEATURES

- * 600 Watts Surge Capability at 1ms
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time: Typically less than 1.0ps from 0 volt to BV min.
- * Typical I_z less than 1μA above 10V
- * High temperature soldering guaranteed: 260°C / 10 seconds / .375"(9.5mm) lead length, 5lbs.(2.3kg) tension
- * Both normal and Pb free product are available:
- * Normal:80~95%Sn,5~20%Pb
- * Pb free:99 Sn above can meet Rohs environment substance directive request

MECHANICAL DATA

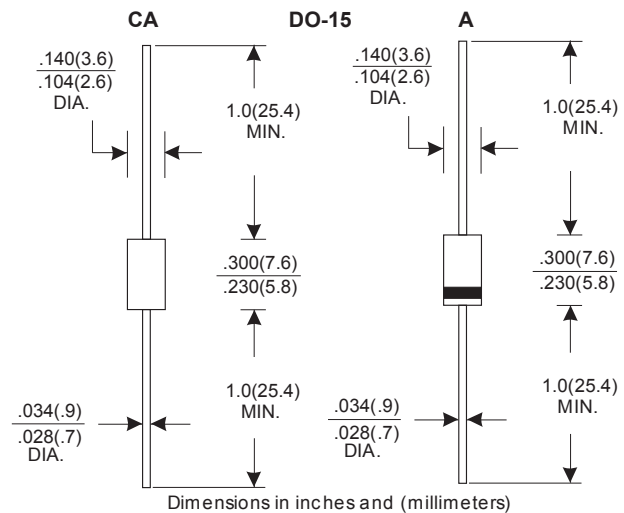
- * Case: Molded plastic
- * Epoxy: UL94V-0 rate flame retardant
- * Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 0.40 grams

VOLTAGE RANGE

6.8 to 440 Volts

600 Watts Peak Power

5.0 Watts Steady State



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation at T _A =25°C, T _P =1ms(NOTE 1)	P _{PK}	Minimum 600	Watts
Steady State Power Dissipation at T _L =75°C Lead Length .375"(9.5mm) (NOTE 2)	P _D	5.0	Watts
Peak Forward Surge Current at 8.3ms Single Half Sine-Wave superimposed on rated load (JEDEC method) (NOTE 3)	I _{FSM}	100	Amps
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +175	°C

NOTES:

1. Non-repetitive current pulse per Fig. 3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on Copper Pad area of 1.6" X 1.6" (40mm X 40mm) per Fig.5.
3. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.

DEVICES FOR BIPOLAR APPLICATIONS

1. For Bidirectional use C or CA Suffix for types P6KE6.8 thru P6KE440.
2. Electrical characteristics apply in both directions.

RATING AND CHARACTERISTIC CURVES (P6KE SERIES)

FIG.1-PEAK PULSE POWER DERATING CURVE

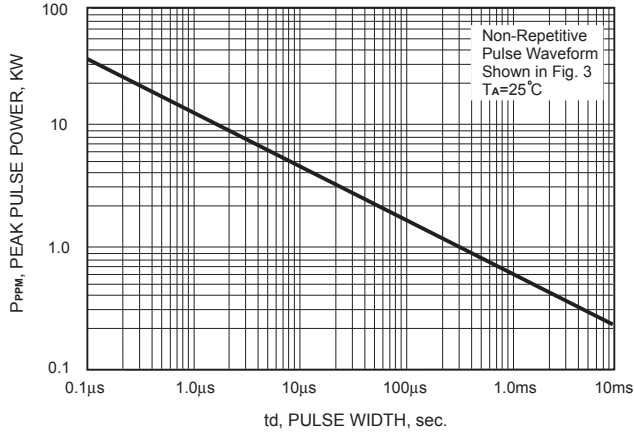


FIG.2-PULSE DERATING CURVE

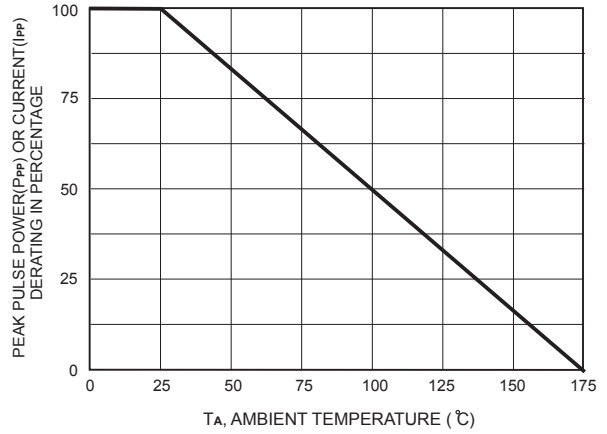


FIG.3-PULSE WAVE FORM



FIG.4-TYPICAL JUNCTION CAPACITANCE

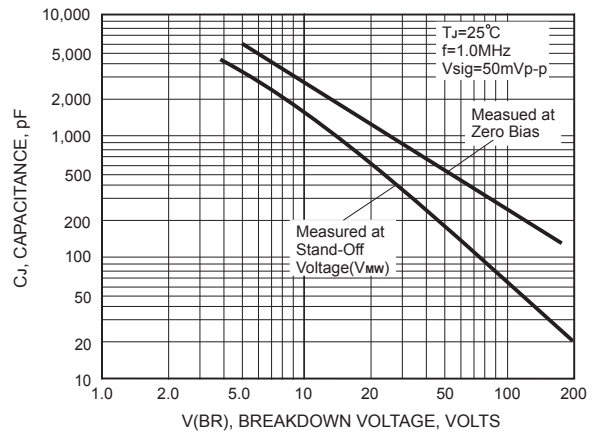


FIG.5-STEADY STATE POWER DERATING CURVE

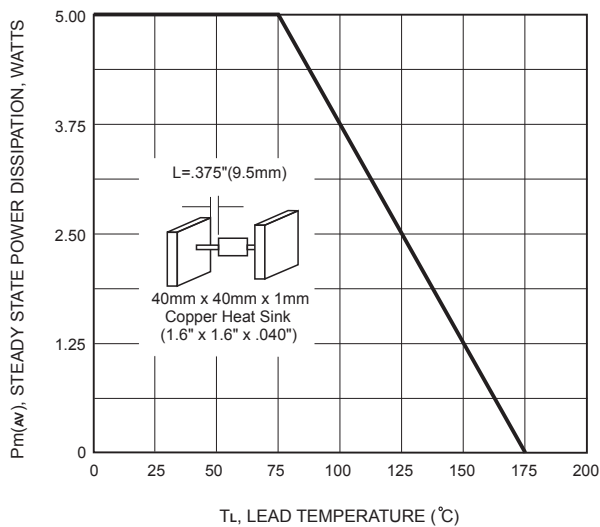
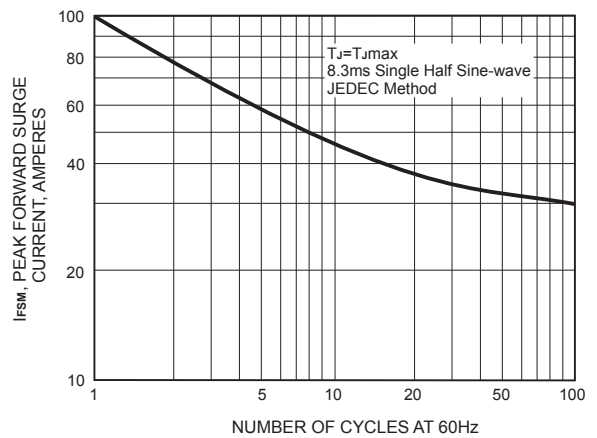


FIG.6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT, UNIDIRECTIONAL



600 Watt Axial Lead TVS

UNI DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VRB (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @ VRWM IR (μA)
P6KE6.8(C)	5.50	6.12	7.48	10	10.8	56.0	1000
P6KE6.8(C)A	5.80	6.45	7.14	10	10.5	57.0	1000
P6KE7.5(C)	6.05	6.75	8.25	10	11.7	51.0	500
P6KE7.5(C)A	6.40	7.13	7.88	10	11.3	53.0	500
P6KE8.2(C)	6.63	7.38	9.02	10	12.5	48.0	200
P6KE8.2(C)A	7.02	7.79	8.61	10	12.1	50.0	200
P6KE9.1(C)	7.37	8.19	10.00	1	13.8	44.0	50
P6KE9.1(C)A	7.78	8.65	9.50	1	13.4	45.0	50
P6KE10(C)	8.10	9.00	11.00	1	15.0	40.0	10
P6KE10(C)A	8.55	9.50	10.50	1	14.5	41.0	10
P6KE11(C)	8.92	9.90	12.10	1	16.2	37.0	5
P6KE11(C)A	9.40	10.50	11.60	1	15.6	38.0	5
P6KE12(C)	9.72	10.80	13.20	1	17.3	35.0	5
P6KE12(C)A	10.20	11.40	12.60	1	16.7	36.0	5
P6KE13(C)	10.50	11.70	14.30	1	19.0	32.0	5
P6KE13(C)A	11.10	12.40	13.70	1	18.2	33.0	5
P6KE15(C)	12.10	13.50	16.50	1	22.0	27.0	5
P6KE15(C)A	12.80	14.30	15.80	1	21.2	28.0	5
P6KE16(C)	12.90	14.40	17.60	1	23.5	26.0	5
P6KE16(C)A	13.60	15.20	16.80	1	22.5	27.0	5
P6KE18(C)	14.50	16.20	19.80	1	26.5	23.0	5
P6KE18(C)A	15.30	17.10	18.90	1	25.2	24.0	5
P6KE20(C)	16.20	18.00	22.00	1	29.1	21.0	5
P6KE20(C)A	17.10	19.00	21.00	1	27.7	22.0	5
P6KE22(C)	17.80	19.80	24.20	1	31.9	19.0	5
P6KE22(C)A	18.80	20.90	23.10	1	30.6	20.0	5
P6KE24(C)	19.40	21.60	26.40	1	34.7	17.0	5
P6KE24(C)A	20.50	22.80	25.20	1	33.2	18.0	5
P6KE27(C)	21.80	24.30	29.70	1	39.1	15.0	5
P6KE27(C)A	23.10	25.70	28.40	1	37.5	16.0	5
P6KE30(C)	24.30	27.00	33.00	1	43.5	14.0	5
P6KE30(C)A	25.60	28.50	31.50	1	41.4	14.4	5
P6KE33(C)	26.80	29.70	36.30	1	47.7	12.6	5
P6KE33(C)A	28.20	31.40	34.70	1	45.7	13.2	5
P6KE36(C)	29.10	32.40	39.60	1	52.0	11.6	5
P6KE36(C)A	30.80	34.20	37.80	1	49.9	12.0	5
P6KE39(C)	31.60	35.10	42.90	1	56.4	10.6	5
P6KE39(C)A	33.30	37.10	41.00	1	53.9	11.2	5
P6KE43(C)	34.80	38.70	47.30	1	61.9	9.6	5
P6KE43(C)A	36.80	40.90	45.20	1	59.3	10.1	5
P6KE47(C)	38.10	42.30	51.70	1	67.8	8.9	5
P6KE47(C)A	40.20	44.70	49.40	1	64.8	9.3	5
P6KE51(C)	41.30	45.90	56.10	1	73.5	8.2	5
P6KE51(C)A	43.60	48.50	53.60	1	70.1	8.6	5
P6KE56(C)	45.40	50.40	61.60	1	80.5	7.4	5
P6KE56(C)A	47.80	53.20	58.80	1	77.0	7.8	5
P6KE62(C)	50.20	55.80	68.20	1	89.0	6.8	5
P6KE62(C)A	53.00	58.90	65.10	1	85.0	7.1	5
P6KE68(C)	55.10	61.20	74.80	1	98.0	6.1	5
P6KE68(C)A	58.10	64.60	71.40	1	92.0	6.5	5
P6KE75(C)	60.70	67.50	82.50	1	108.0	5.5	5
P6KE75(C)A	64.10	71.30	78.80	1	103.0	5.8	5

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P6KE82(C)	66.40	73.80	90.20	1	118.0	5.2	5
P6KE82(C)A	70.10	77.90	86.10	1	113.0	5.4	5
P6KE91(C)	73.70	81.90	100.00	1	131.0	4.7	5
P6KE91(C)A	77.80	86.50	95.50	1	125.0	4.9	5
P6KE100(C)	81.00	90.00	110.00	1	144.0	4.2	5
P6KE100(C)A	85.50	95.00	105.00	1	137.0	4.5	5
P6KE110(C)	89.20	99.00	121.00	1	158.0	3.9	5
P6KE110(C)A	94.00	105.00	116.00	1	152.0	4.0	5
P6KE120(C)	97.20	108.00	132.00	1	173.0	3.5	5
P6KE120(C)A	102.00	114.00	126.00	1	165.0	3.7	5
P6KE130(C)	105.00	117.00	143.00	1	187.0	3.3	5
P6KE130(C)A	111.00	124.00	137.00	1	179.0	3.4	5
P6KE150(C)	121.00	135.00	165.00	1	215.0	2.8	5
P6KE150(C)A	128.00	143.00	158.00	1	207.0	2.9	5
P6KE160(C)	130.00	144.00	176.00	1	230.0	2.7	5
P6KE160(C)A	136.00	152.00	168.00	1	219.0	2.8	5
P6KE170(C)	138.00	153.00	187.00	1	244.0	2.5	5
P6KE170(C)A	145.00	162.00	179.00	1	234.0	2.6	5
P6KE180(C)	146.00	162.00	198.00	1	258.0	2.4	5
P6KE180(C)A	154.00	171.00	189.00	1	246.0	2.5	5
P6KE200(C)	162.00	180.00	220.00	1	287.0	2.1	5
P6KE200(C)A	171.00	190.00	210.00	1	274.0	2.2	5
P6KE220(C)	175.00	198.00	242.00	1	344.0	1.8	5
P6KE220(C)A	185.00	209.00	231.00	1	328.0	1.9	5
P6KE250(C)	202.00	225.00	275.00	1	360.0	1.7	5
P6KE250(C)A	214.00	237.00	263.00	1	344.0	1.8	5
P6KE300(C)	243.00	270.00	330.00	1	430.0	1.4	5
P6KE300(C)A	256.00	285.00	315.00	1	414.0	1.5	5
P6KE350(C)	284.00	315.00	385.00	1	504.0	1.2	5
P6KE350(C)A	300.00	332.00	368.00	1	482.0	1.3	5
P6KE400(C)	324.00	360.00	440.00	1	574.0	1.1	5
P6KE400(C)A	342.00	380.00	420.00	1	548.0	1.1	5
P6KE440(C)	356.00	396.00	484.00	1	631.0	1.0	5
P6KE440(C)A	376.00	418.00	462.00	1	600.0	1.0	5