

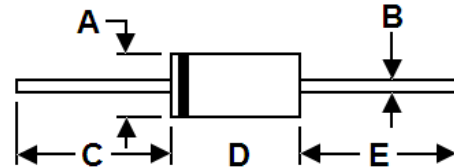
Features

- * Plastic package has underwriters laboratory flammability classifications 94V-0
- * 400W surge capability at 1ms
- * Excellent clamping capability
- * Low Zener impedance
- * Fast response time: typically less than 1.0ps from 0 volts to BV min
- * Typical IR less than 1μA above 10V



Package Outline Dimensions

DO-15:



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.6	3.6	0.102	0.142
B	0.7	0.9	0.027	0.035
C	25.4	-	1.0	-
D	5.8	7.6	0.228	0.300
E	25.4	-	1.0	-

Mechanical Data

- * Case: Molded plastic
- * Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: Color band denotes cathode bidirectional not mark.

Maximum Ratings and Electrical Characteristics

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

Type Number	Symbol	Value	Unit
Peak Power Dissipation at $T_A=25^\circ\text{C}$, $T_P=1\text{ms}$ (Note1)	P_{PPM}	Minimum 600	Watt
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ Lead Lengths .375",9.5mm(Note2)	P_D	5.0	Watt
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC method) (Note3)	I_{FSM}	100.0	Amp
Maximum Instantaneous Forward Voltage at 50A for unidirectional only (Note4)	V_F	3.5/5.0	Volt
Operating and Storage Temperature Range	T_J/T_{STG}	-55 to +175	°C

Note:1、 Non-repetitive current pulse per Fig.3 and debated above $T_A=25^\circ\text{C}$ per Fig.2.

- 2、 Mounted on copper pad area $1.6 \times 1.6''(40 \times 40\text{mm})$ per Fig.5.
- 3、 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minutes maximum.
- 4、 $V_F=3.5\text{V}$ max for devices $V_{(BR)} \leq 200\text{V}$ and $V_F=5.0\text{V}$ for devices $V_{(BR)} > 200\text{V}$.

Devices For Bipolar Applications

- 1、 For bidirectional use C or CA suffix for types P6KE6.8 thru types P6KE440.
- 2、 Electrical characteristics apply in both directions.

Ratings and Characteristic Curves

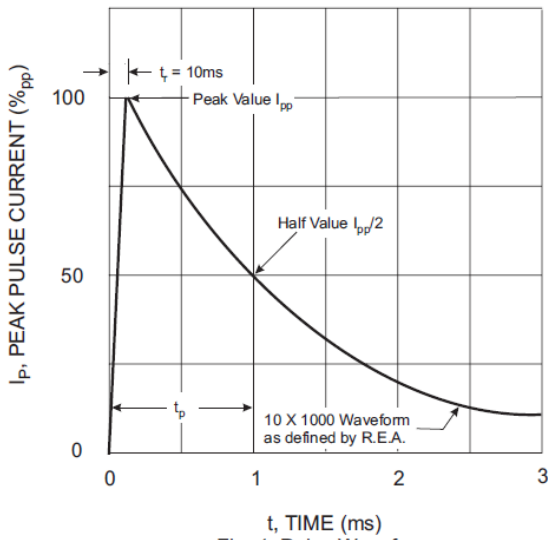


Fig. 1 Pulse Waveform

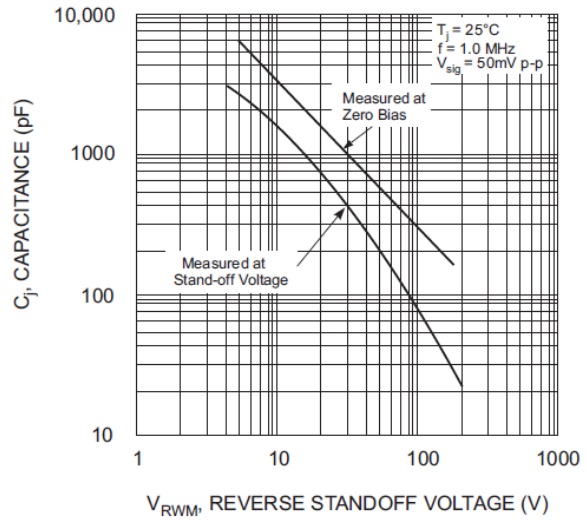


Fig. 2 Typical Junction Capacitance

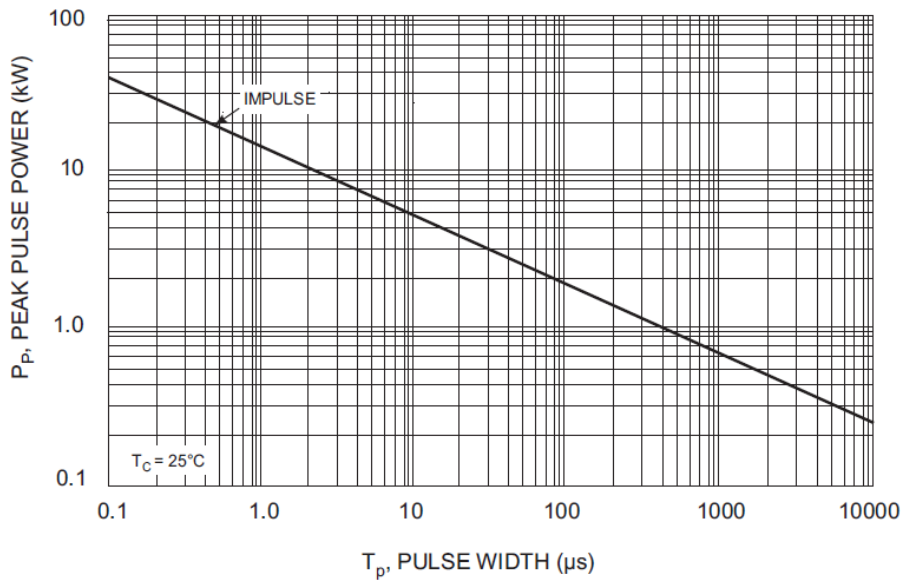


Fig. 3 Pulse Rating Curve

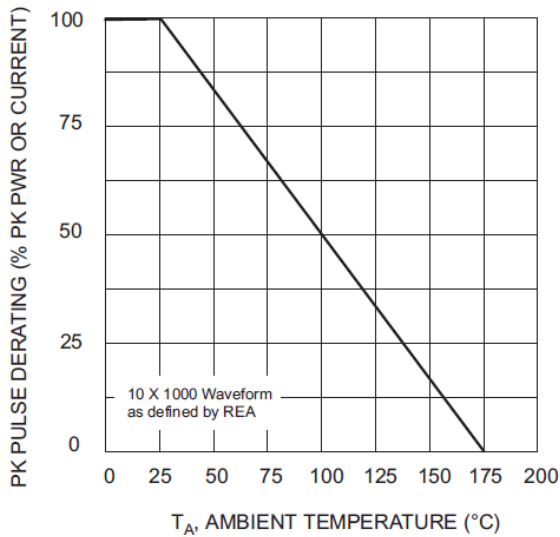


Fig. 4 Pulse Derating Curve

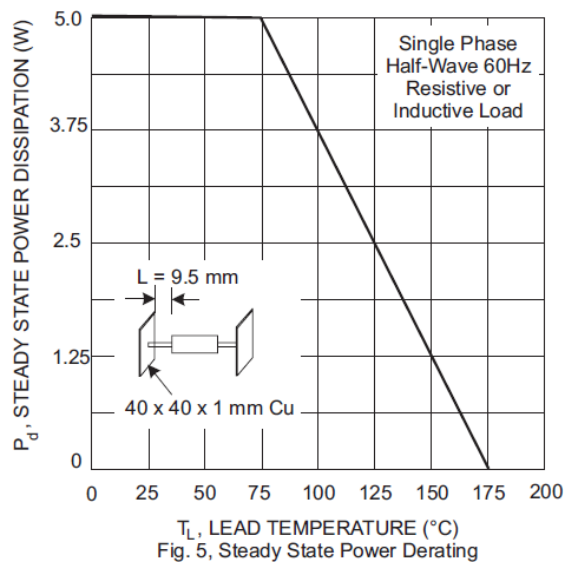


Fig. 5, Steady State Power Derating

Electrical Characteristics @T_A=25°C unless otherwise noted

Type Number		Reverse Stand Off Voltage V _R (Volts)	Nominal Voltage (Volts)	Breakdown Voltage V(BR)(Volts) @I _T (Note1)		Test Current I _T (mA)	Maximum Clamping Voltage V _C @ I _{PP} (Volts)	Maximum Peak Pulse Current I _{PP} (Note2) (Amps)	Maximum Reverse Leakage I _R (μA) @V _R (Note3)
				Min	Max				
(Uni)	(Bi)								
P6KE6.8	P6KE6.8C	5.50	6.8	6.12	7.48	10	10.8	56	1000
P6KE6.8A	P6KE6.8CA	5.80	6.8	6.46	7.14	10	10.5	57	1000
P6KE7.5	P6KE7.5C	6.05	7.5	6.75	8.25	1.0	11.7	51	500
P6KE7.5A	P6KE7.5CA	6.40	7.5	7.13	7.88	1.0	11.3	53	500
P6KE8.2	P6KE8.2C	6.63	8.2	7.38	9.02	1.0	12.5	48	200
P6KE8.2A	P6KE8.2CA	7.02	8.2	7.79	8.61	1.0	12.1	50	200
P6KE9.1	P6KE9.1C	7.37	9.1	8.19	10.0	1.0	13.8	44	50
P6KE9.1A	P6KE9.1CA	7.78	9.1	8.65	9.55	1.0	13.4	45	50
P6KE10	P6KE10C	8.10	10	9.00	11.0	1.0	15.0	40	10
P6KE10A	P6KE10CA	8.55	10	9.50	10.5	1.0	14.5	41	10
P6KE11	P6KE11C	8.92	11	9.90	12.1	1.0	16.2	37	5.0
P6KE11A	P6KE11CA	9.40	11	10.5	11.6	1.0	15.6	38	5.0
P6KE12	P6KE12C	9.72	12	10.8	13.2	1.0	17.3	35	5.0
P6KE12A	P6KE12CA	10.2	12	11.4	12.6	1.0	16.7	36	5.0
P6KE13	P6KE13C	10.5	13	11.7	14.3	1.0	19.0	32	5.0
P6KE13A	P6KE13CA	11.1	13	12.4	13.7	1.0	18.2	33	5.0
P6KE15	P6KE15C	12.1	15	13.5	16.5	1.0	22.0	27	5.0
P6KE15A	P6KE15CA	12.8	15	14.3	15.8	1.0	21.2	28	5.0
P6KE16	P6KE16C	12.9	16	14.4	17.6	1.0	23.5	26	5.0
P6KE16A	P6KE16CA	13.6	16	15.2	16.8	1.0	22.5	27	5.0
P6KE18	P6KE18C	14.5	18	16.2	19.8	1.0	26.5	23	5.0
P6KE18A	P6KE18CA	15.3	18	17.1	18.9	1.0	25.2	24	5.0
P6KE20	P6KE20C	16.2	20	18.0	22.0	1.0	29.1	21	5.0
P6KE20A	P6KE20CA	17.1	20	19.0	21.0	1.0	27.7	22	5.0
P6KE22	P6KE22C	17.8	22	19.8	24.2	1.0	31.9	19	5.0
P6KE22A	P6KE22CA	18.8	22	20.9	23.1	1.0	30.6	20	5.0
P6KE24	P6KE24C	19.4	24	21.6	26.4	1.0	34.7	17	5.0
P6KE24A	P6KE24CA	20.5	24	22.8	25.2	1.0	33.2	18	5.0
P6KE27	P6KE27C	21.8	27	24.3	29.7	1.0	39.1	15	5.0
P6KE27A	P6KE27CA	23.1	27	25.7	28.4	1.0	37.5	16	5.0
P6KE30	P6KE30C	24.3	30	27.0	33.0	1.0	43.5	14	5.0
P6KE30A	P6KE30CA	25.6	30	28.5	31.5	1.0	41.4	14.4	5.0
P6KE33	P6KE33C	26.8	33	29.7	36.3	1.0	47.7	12.6	5.0
P6KE33A	P6KE33CA	28.2	33	31.4	34.7	1.0	45.7	13.2	5.0
P6KE36	P6KE36C	29.1	36	32.4	39.6	1.0	52.0	11.6	5.0
P6KE36A	P6KE36CA	30.8	36	34.2	37.8	1.0	49.9	12	5.0
P6KE39	P6KE39C	31.6	39	35.1	42.9	1.0	56.4	10.6	5.0
P6KE39A	P6KE39CA	33.3	39	37.1	41.0	1.0	53.9	11.2	5.0
P6KE43	P6KE43C	34.8	43	38.7	47.3	1.0	61.9	9.6	5.0
P6KE43A	P6KE43CA	36.8	43	40.9	45.2	1.0	59.3	10.1	5.0
P6KE47	P6KE47C	38.1	47	42.3	51.7	1.0	67.8	8.9	5.0
P6KE47A	P6KE47CA	40.2	47	44.7	49.4	1.0	64.8	9.3	5.0



P6KE SERIES

Transient Voltage Suppressors Diode

Electrical Characteristics @T_A=25°C unless otherwise noted

Type Number		Reverse Stand Off Voltage V _R (Volts)	Nominal Voltage (Volts)	Breakdown Voltage V(BR)(Volts) @I _T (Note1)		Test Current I _T (mA)	Maximum Clamping Voltage V _C @ I _{PP} (Volts)	Maximum Peak Pulse Current I _{PP} (Note2) (Amps)	Maximum Reverse Leakage I _R (μA) @V _R (Note3)
				Min	Max				
P6KE51	P6KE51C	41.3	51	45.9	56.1	1.0	73.5	8.2	5.0
P6KE51A	P6KE51CA	43.6	51	48.5	53.6	1.0	70.1	8.6	5.0
P6KE56	P6KE56C	45.4	56	50.4	61.6	1.0	80.5	7.4	5.0
P6KE56A	P6KE56CA	47.8	56	53.2	58.8	1.0	77.0	7.8	5.0
P6KE62	P6KE62C	50.2	62	55.8	68.2	1.0	89.0	6.8	5.0
P6KE62A	P6KE62CA	53.0	62	58.9	65.1	1.0	85.0	7.1	5.0
P6KE68	P6KE68C	55.1	68	61.2	74.8	1.0	96.0	6.1	5.0
P6KE68A	P6KE68CA	58.1	68	64.6	71.4	1.0	92.0	6.5	5.0
P6KE75	P6KE75C	60.7	75	67.5	82.5	1.0	108.0	5.5	5.0
P6KE75A	P6KE75CA	64.1	75	71.3	78.8	1.0	103.0	5.8	5.0
P6KE82	P6KE82C	66.4	82	73.8	90.2	1.0	118.0	5.1	5.0
P6KE82A	P6KE82CA	70.1	82	77.9	86.1	1.0	113.0	5.3	5.0
P6KE91	P6KE91C	73.7	91	81.9	100.0	1.0	131.8	4.8	5.0
P6KE91A	P6KE91CA	77.8	91	86.5	95.50	1.0	125.0	4.2	5.0
P6KE100	P6KE100C	81.0	100	90.0	110.0	1.0	144.0	4.8	5.0
P6KE100A	P6KE100CA	85.5	100	95.0	105.0	1.0	137.0	4.4	5.0
P6KE110	P6KE110C	89.2	110	99.0	121.0	1.0	158.0	3.8	5.0
P6KE110A	P6KE110CA	94.0	110	105.0	116.0	1.0	152.0	4.0	5.0
P6KE120	P6KE120C	97.2	120	108.0	132.0	1.0	173.0	3.5	5.0
P6KE120A	P6KE120CA	102.0	120	114.0	126.0	1.0	165.0	3.6	5.0
P6KE130	P6KE130C	105.0	130	117.0	143.0	1.0	187.0	3.2	5.0
P6KE130A	P6KE130CA	111.0	130	124.0	137.0	1.0	179.0	3.3	5.0
P6KE150	P6KE150C	121.0	150	135.0	165.0	1.0	215.0	2.8	5.0
P6KE150A	P6KE150CA	128.0	150	143.0	158.0	1.0	207.0	2.9	5.0
P6KE160	P6KE160C	130.0	160	144.0	176.0	1.0	230.0	2.6	5.0
P6KE160A	P6KE160CA	136.0	160	152.0	168.0	1.0	219.0	2.7	5.0
P6KE170	P6KE170C	138.0	170	153.0	187.0	1.0	244.0	2.5	5.0
P6KE170A	P6KE170CA	145.0	170	162.0	179.0	1.0	234.0	2.6	5.0
P6KE180	P6KE180C	146.0	180	162.0	198.0	1.0	258.0	2.3	5.0
P6KE180A	P6KE180CA	154.0	180	171.0	189.0	1.0	246.0	2.4	5.0
P6KE200	P6KE200C	162.0	200	180.0	220.0	1.0	287.0	2.1	5.0
P6KE200A	P6KE200CA	171.0	200	190.0	210.0	1.0	274.0	2.2	5.0
P6KE220	P6KE220C	175.0	220	198.0	242.0	1.0	344.0	1.7	5.0
P6KE220A	P6KE220CA	185.0	220	209.0	231.0	1.0	328.0	1.8	5.0
P6KE250	P6KE250C	202.0	250	225.0	275.0	1.0	360.0	1.6	5.0
P6KE250A	P6KE250CA	214.0	250	237.0	263.0	1.0	344.0	1.7	5.0
P6KE300	P6KE300C	243.0	300	270.0	330.3	1.0	430.0	1.4	5.0
P6KE300A	P6KE300CA	256.0	300	285.0	315.0	1.0	414.0	1.45	5.0
P6KE350	P6KE350C	284.0	350	315.0	385.0	1.0	504.0	1.2	5.0
P6KE350A	P6KE350CA	300.0	350	332.0	368.0	1.0	482.0	1.25	5.0
P6KE400	P6KE400C	324.0	400	360.0	440.0	1.0	574.0	1.05	5.0
P6KE400A	P6KE400CA	342.0	400	380.0	420.0	1.0	548.0	1.09	5.0
P6KE440	P6KE440C	356	440	396.0	484.0	1.0	631.0	0.95	5.0
P6KE440A	P6KE440CA	376	440	418.0	462.0	1.0	602.0	1.0	5.0

- Note:1、V(BR) measured after I_T applied for 300 μ S. I_T=square wave pulse or equivalent.
- 2、Surge current waveform per Figure 3 and derate per Figure 2.
 - 3、For bipolar types having V_{WM} of 10 volts and less, the I_D limit is doubled.
 - 4、Add suffix "C" or "CA" after type number to specify bi-directional devices.
 - 5、Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device



P6KE SERIES

Transient Voltage Suppressors Diode

Ordering Information

Part No.	Package	Packing
P6KE Series	DO-15	2K/AMMO box
P6KE Series	DO-15	3K/AMMO box
P6KE Series	DO-15	4K/13" Paper reel
P6KE Series	DO-15	0.5K/Bulk packing