



CHENMKO ENTERPRISE CO.,LTD

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE-6.8 TO 400 VOLTS
600 WATTS PEAK POWER 5.0 WATTS STEADY STATE

**P6KE
 SERIES**

Lead free devices

FEATURES

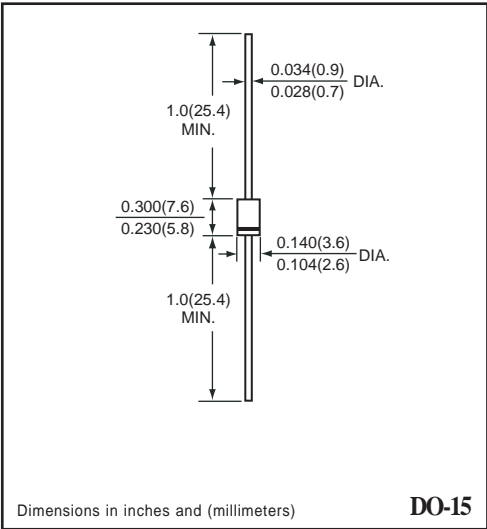
- * Plastic package
- * 600W surge capability at 1ms
- * Glass passivated chip junction in DO-15 Package
- * Excellent clamping capability
- * Low Zener Impedance
- * Fast response time: typically less than 1.0ps from 0 volts to BV min.
- * Typical IR less than 1 uA above 10V
- * High temperature soldering guaranteed: 300 degree C/10seconds/.375"(9.5mm) lead length/51 bs., (2.3k) tension

MECHANICAL DATA

Case: JEDEC DO-15 molded plastic
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.015 ounce, 0.4 gram



DO-15



DO-15

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

DEVICES FOR BIDIRECTIONAL APPLICATIONS

For Bidirectional use C or CA Suffix for types P6KE6.8 thru types P6KE400
 Electrical characteristics apply in both directions.

MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation at TA = 25°C, Tp = 1ms (Note1)	PPK	Minimum 600	Watts
Steady State Power Dissipation at TL = 75°C Lead Lengths .375" (9.5mm)	PD	5.0	Watts
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Note 2)	IFSM	100	Amps
Operating and Storage Temperature Range	TJ, TSTG	-65 to +175	°C

NOTES : 1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25°C per Fig. 2.
 2. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.

PRODUCT NO.	Breakdown Voltage			Working Peak Reverse Voltage	Maximum Reverse Leakage at Vrwm	Maximum Reverse Current (NOTE 2)	Maximum Reverse Voltage at Irsm (clamping)	Maximum Temperature Coefficient of Vbr
	VBR Volts (NOTE 1)		@ IT (mA)					
	MIN.	MAX.		Vrwm (V)	Ir (uA)	Irsm (A)	Vrsm (V)	(%C)
P6KE6.8PT	6.12	7.48	10	5.50	1000	56	10.8	0.057
P6KE6.8APT	6.45	7.14	10	5.80	1000	57	10.5	0.057
P6KE7.5PT	6.75	8.25	10	6.05	500	51	11.7	0.061
P6KE7.5APT	7.13	7.88	10	6.40	500	53	11.3	0.061
P6KE8.2PT	7.38	9.02	10	6.63	200	48	12.5	0.065
P6KE8.2APT	7.79	8.61	10	7.02	200	50	12.1	0.065
P6KE9.1PT	8.19	10.0	1.0	7.37	50	44	13.8	0.068
P6KE9.1APT	8.65	9.55	1.0	7.78	50	45	13.4	0.068
P6KE10PT	9.0	11.0	1.0	8.10	10	40	15.0	0.073
P6KE10APT	9.5	10.5	1.0	8.55	10	41	14.5	0.073
P6KE11PT	9.9	12.1	1.0	8.92	5.0	37	16.2	0.075
P6KE11APT	10.5	11.6	1.0	9.40	5.0	38	15.6	0.075
P6KE12PT	10.8	13.2	1.0	9.72	5.0	35	17.3	0.078
P6KE12APT	11.4	12.6	1.0	10.2	5.0	36	16.7	0.078
P6KE13PT	11.7	14.3	1.0	10.5	5.0	32	19.0	0.081
P6KE13APT	12.4	13.7	1.0	11.1	5.0	33	18.2	0.081
P6KE15PT	13.5	16.5	1.0	12.1	5.0	27	22.0	0.084
P6KE15APT	14.3	15.8	1.0	12.8	5.0	28	21.2	0.084
P6KE16PT	14.4	17.6	1.0	12.9	5.0	26	23.5	0.086
P6KE16APT	15.2	16.8	1.0	13.6	5.0	27	22.5	0.086
P6KE18PT	16.2	19.8	1.0	14.5	5.0	23	26.5	0.088
P6KE18APT	17.1	18.9	1.0	15.3	5.0	24	25.2	0.088
P6KE20PT	18.0	22.0	1.0	16.2	5.0	21	29.1	0.090
P6KE20APT	19.0	21.0	1.0	17.1	5.0	22	27.7	0.090
P6KE22PT	19.8	24.2	1.0	17.8	5.0	19	31.9	0.092
P6KE22APT	20.9	23.1	1.0	18.8	5.0	20	30.6	0.092
P6KE24PT	21.6	26.4	1.0	19.4	5.0	17	34.7	0.094
P6KE24APT	22.8	25.2	1.0	20.5	5.0	18	33.2	0.094
P6KE27PT	24.3	29.7	1.0	21.8	5.0	15	39.1	0.096
P6KE27APT	25.7	28.4	1.0	23.1	5.0	16	37.5	0.096
P6KE30PT	27.0	33.0	1.0	24.3	5.0	14	43.5	0.097
P6KE30APT	28.5	31.5	1.0	25.6	5.0	14.4	41.4	0.097
P6KE33PT	29.7	36.3	1.0	26.8	5.0	12.6	47.7	0.098
P6KE33APT	31.4	34.7	1.0	28.2	5.0	13.2	45.7	0.098
P6KE36PT	32.4	39.6	1.0	29.1	5.0	11.6	52.0	0.099
P6KE36APT	34.2	37.8	1.0	30.8	5.0	12.0	49.9	0.099
P6KE39PT	35.1	42.9	1.0	31.6	5.0	10.6	56.4	0.100
P6KE39APT	37.1	41.0	1.0	33.3	5.0	11.2	53.9	0.100
P6KE43PT	38.7	47.3	1.0	34.8	5.0	9.6	61.9	0.101
P6KE43APT	40.9	45.2	1.0	36.8	5.0	10.1	59.3	0.101
P6KE47PT	42.3	51.7	1.0	38.1	5.0	8.9	67.8	0.101
P6KE47APT	44.7	49.4	1.0	40.2	5.0	9.3	64.8	0.101
P6KE51PT	45.9	56.1	1.0	41.3	5.0	8.2	73.5	0.102
P6KE51APT	48.5	53.6	1.0	43.6	5.0	8.6	70.1	0.102
P6KE56PT	50.4	61.6	1.0	45.4	5.0	7.4	80.5	0.103

PRODUCT NO.	Breakdown Voltage			Working Peak Reverse Voltage	Maximum Reverse Leakage at Vrwm	Maximum Reverse Current (NOTE 2)	Maximum Reverse Voltage at Irsm (clamping)	Maximum Temperature Coefficient of Vbr
	VBR Volts (NOTE 1)		@ IT (mA)					
	MIN.	MAX.		Vrwm (V)	Ir (uA)	Irsm (A)	Vrsm (V)	(%C)
P6KE56APT	53.2	58.8	1.0	47.8	5.0	7.8	77.0	0.103
P6KE62PT	55.8	68.2	1.0	50.2	5.0	6.8	89.0	0.104
P6KE62APT	58.9	65.1	1.0	53.0	5.0	7.1	85.0	0.104
P6KE68PT	61.2	74.8	1.0	55.1	5.0	6.1	98.0	0.104
P6KE68APT	64.6	71.4	1.0	58.0	5.0	6.5	92.0	0.104
P6KE75PT	67.5	82.5	1.0	60.7	5.0	5.5	108	0.105
P6KE75APT	71.3	78.8	1.0	64.1	5.0	5.8	103	0.105
P6KE82PT	73.8	90.2	1.0	66.4	5.0	5.1	118	0.105
P6KE82APT	77.9	86.1	1.0	70.1	5.0	5.3	113	0.105
P6KE91PT	81.9	100	1.0	73.7	5.0	4.5	131	0.106
P6KE91APT	86.5	95.5	1.0	77.8	5.0	4.8	125	0.106
P6KE100PT	90.0	110	1.0	81.0	5.0	4.2	144	0.106
P6KE100APT	95.0	105	1.0	85.5	5.0	4.4	137	0.106
P6KE110PT	99.0	121	1.0	89.2	5.0	3.8	158	0.107
P6KE110APT	105	116	1.0	94.0	5.0	4.0	152	0.107
P6KE120PT	108	132	1.0	97.2	5.0	3.5	173	0.107
P6KE120APT	114	126	1.0	102	5.0	3.6	165	0.107
P6KE130PT	117	143	1.0	105	5.0	3.2	187	0.107
P6KE130APT	124	137	1.0	111	5.0	3.3	179	0.107
P6KE150PT	135	165	1.0	121	5.0	2.8	215	0.108
P6KE150APT	143	158	1.0	128	5.0	2.9	207	0.108
P6KE160PT	144	176	1.0	130	5.0	2.6	230	0.108
P6KE160APT	152	168	1.0	136	5.0	2.7	219	0.108
P6KE170PT	153	187	1.0	138	5.0	2.5	244	0.108
P6KE170APT	162	179	1.0	145	5.0	2.6	234	0.108
P6KE180PT	162	198	1.0	146	5.0	2.3	258	0.108
P6KE180APT	171	189	1.0	154	5.0	2.4	246	0.108
P6KE200PT	180	220	1.0	162	5.0	2.1	287	0.108
P6KE200APT	190	210	1.0	171	5.0	2.2	274	0.108
P6KE220PT	198	242	1.0	175	5.0	1.75	344	0.108
P6KE220APT	209	231	1.0	185	5.0	1.83	328	0.108
P6KE250PT	225	275	1.0	202	5.0	1.67	360	0.110
P6KE250APT	237	263	1.0	214	5.0	1.75	344	0.110
P6KE300PT	270	330	1.0	243	5.0	1.40	430	0.110
P6KE300APT	285	315	1.0	256	5.0	1.45	414	0.110
P6KE350PT	315	385	1.0	284	5.0	1.20	504	0.110
P6KE350APT	332	368	1.0	300	5.0	1.25	482	0.110
P6KE400PT	360	440	1.0	324	5.0	1.05	574	0.110
P6KE400APT	380	420	1.0	342	5.0	1.10	548	0.110

- NOTES : 1. Vbr measured after IT applied for 300 us. IT = Square Wave Pulse or equivalent.
2. Surge Current Waveform per Figure 3 and Derated per Figure 2.
3. Vf = 3.5 V max. at If = 50 A (P6KE6.8 thru P6KE91A)
Vf = 5.0 V max. at If = 50 A (P6KE100 thru P6KE400A) on 1/2 Square or equivalent Sine Wave.
PW = 8.3ms, Duty Cycle = 4 Pulses per minute maximum.
4. For Bipolar types having VR of 10 Volts and under, the IR limit is doubled.

RATING CHARACTERISTIC CURVES (P6KE6.8PT ~ P6KE400APT)

FIG. 1 - PEAK PULSE POWER RATING CURVE

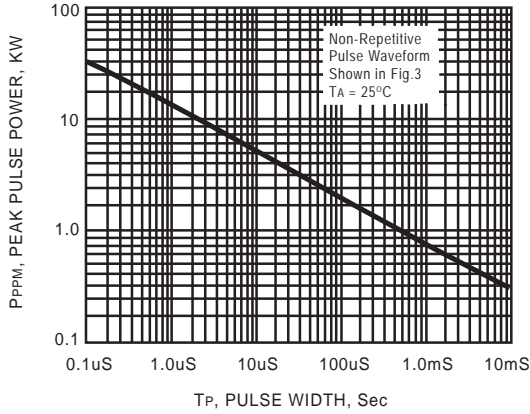


FIG. 2 - PULSE DERATING CURVE

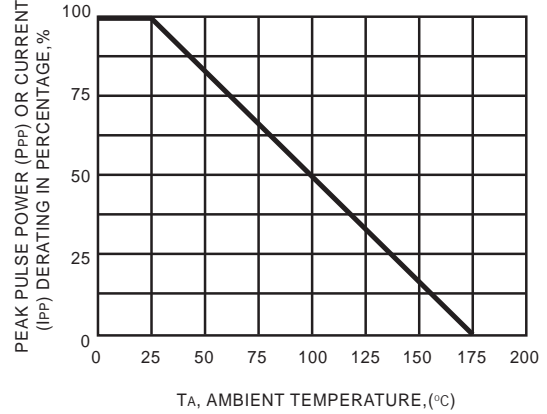


FIG. 3 - PULSE WAVEFORM

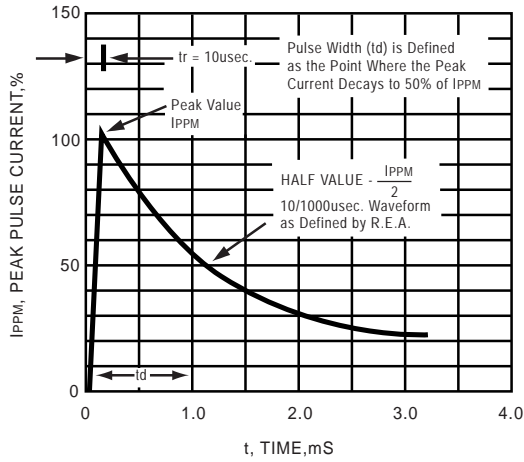
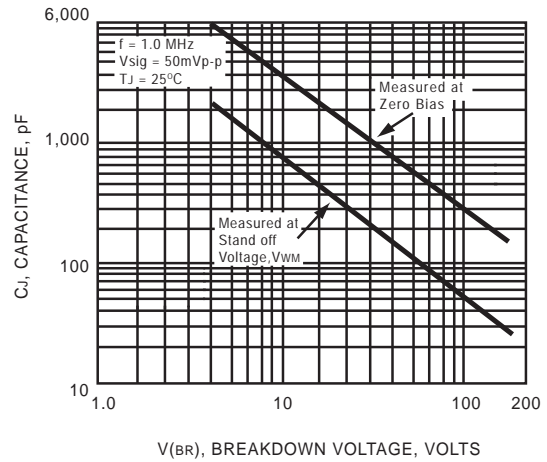


FIG. 4 - TYPICAL JUNCTION CAPACITANCE UNI-DIRECTIONAL



RATING CHARACTERISTIC CURVES (P6KE6.8PT ~ P6KE400APT)

FIG. 5 - STEADY STATE POWER DERATING CURVE

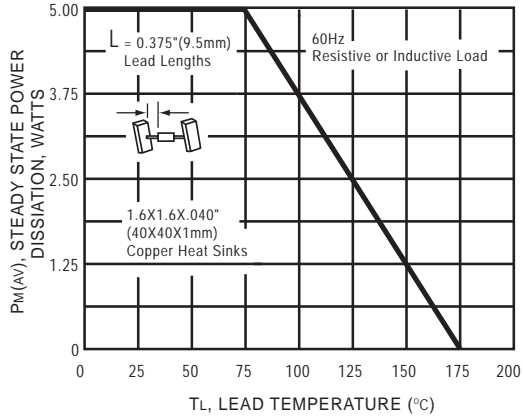


FIG. 6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNI-DIRECTIONAL

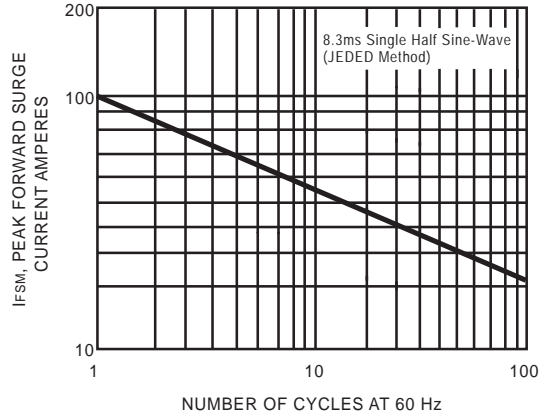


FIG. 7 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

