



CHENMKO ENTERPRISE CO.,LTD

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE-6.8 TO 400 VOLTS
400 WATTS PEAK POWER 1.0 WATT STEADY STATE

**P4KE
SERIES**

Lead free devices

FEATURES

- * Plastic package
- * 400W surge capability at 1ms
- * Glass passivated chip junction in DO-41 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-41 molded plastic

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

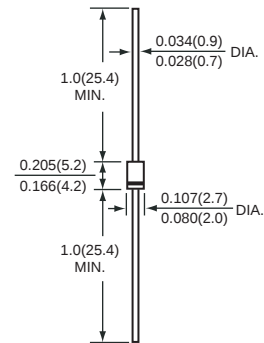
Weight: 0.012 ounce, 0.3 gram

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%.



DO-41



Dimensions in inches and (millimeters)

DO-41

DEVICES FOR BIDIRECTIONAL APPLICATIONS

For Bidirectional use C or CA Suffix for types P4KE6.8 thru types P4KE400
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 400	Watts
Steady State Power Dissipation at TL = 75°C Lead Lengths .375" (9.5mm)	PD	1.0	Watts
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Note 2)	IFSM	40	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.

2001-6

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)
P4KE6.8PT	6.12	7.48	10	5.50	1000	38	10.8	0.057
P4KE6.8APT	6.45	7.14	10	5.80	1000	40	10.5	0.057
P4KE7.5PT	6.75	8.25	10	6.05	500	36	11.7	0.061
P4KE7.5APT	7.13	7.88	10	6.40	500	37	11.3	0.061
P4KE8.2PT	7.38	9.02	10	6.63	200	33	12.5	0.065
P4KE8.2APT	7.79	8.61	10	7.02	200	35	12.1	0.065
P4KE9.1PT	8.19	10.0	1.0	7.37	50	30	13.8	0.068
P4KE9.1APT	8.65	9.55	1.0	7.78	50	31	13.4	0.068
P4KE10PT	9.0	11.0	1.0	8.10	10	28	15.0	0.073
P4KE10APT	9.5	10.5	1.0	8.55	10	29	14.5	0.073
P4KE11PT	9.9	12.1	1.0	8.92	5.0	26	16.2	0.075
P4KE11APT	10.5	11.6	1.0	9.40	5.0	27	15.6	0.075
P4KE12PT	10.8	13.2	1.0	9.72	5.0	24	17.3	0.078
P4KE12APT	11.4	12.6	1.0	10.2	5.0	25	16.7	0.078
P4KE13PT	11.7	14.3	1.0	10.5	5.0	22	19.0	0.081
P4KE13APT	12.4	13.7	1.0	11.1	5.0	23	18.2	0.081
P4KE15PT	13.5	16.5	1.0	12.1	5.0	19	22.0	0.084
P4KE15APT	14.3	15.8	1.0	12.8	5.0	20	21.2	0.084
P4KE16PT	14.4	17.6	1.0	12.9	5.0	18	23.5	0.086
P4KE16APT	15.2	16.8	1.0	13.6	5.0	19	22.5	0.086
P4KE18PT	16.2	19.8	1.0	14.5	5.0	16	26.5	0.088
P4KE18APT	17.1	18.9	1.0	15.3	5.0	17	25.2	0.088
P4KE20PT	18.0	22.0	1.0	16.2	5.0	14	29.1	0.090
P4KE20APT	19.0	21.0	1.0	17.1	5.0	15	27.7	0.090
P4KE22PT	19.8	24.2	1.0	17.8	5.0	13	31.9	0.092
P4KE22APT	20.9	23.1	1.0	18.8	5.0	14	30.6	0.092
P4KE24PT	21.6	26.4	1.0	19.4	5.0	12	34.7	0.094
P4KE24APT	22.8	25.2	1.0	20.5	5.0	13	33.2	0.094
P4KE27PT	24.3	29.7	1.0	21.8	5.0	11	39.1	0.096
P4KE27APT	25.7	28.4	1.0	23.1	5.0	11.2	37.5	0.096
P4KE30PT	27.0	33.0	1.0	24.3	5.0	10	43.5	0.097
P4KE30APT	28.5	31.5	1.0	25.6	5.0	10	41.4	0.097
P4KE33PT	29.7	36.3	1.0	26.8	5.0	9	47.7	0.098
P4KE33APT	31.4	34.7	1.0	28.2	5.0	9	45.7	0.098
P4KE36PT	32.4	39.6	1.0	29.1	5.0	8	52.0	0.099
P4KE36APT	34.2	37.8	1.0	30.8	5.0	8.4	49.9	0.099
P4KE39PT	35.1	42.9	1.0	31.6	5.0	7.4	56.4	0.100
P4KE39APT	37.1	41.0	1.0	33.3	5.0	7.8	53.9	0.100
P4KE43PT	38.7	47.3	1.0	34.8	5.0	6.8	61.9	0.101
P4KE43APT	40.9	45.2	1.0	36.8	5.0	7.1	59.3	0.101
P4KE47PT	42.3	51.7	1.0	38.1	5.0	6.2	67.8	0.101
P4KE47APT	44.7	49.4	1.0	40.2	5.0	5.0	64.8	0.101
P4KE51PT	45.9	56.1	1.0	41.3	5.0	5.7	73.5	0.102
P4KE51APT	48.5	53.6	1.0	43.6	5.0	6.0	70.1	0.102
P4KE56PT	50.4	61.6	1.0	45.4	5.0	5.2	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)
P4KE56APT	53.2	58.8	1.0	47.8	5.0	5.5	77.0	0.103
P4KE62PT	55.8	68.2	1.0	50.2	5.0	4.7	89.0	0.104
P4KE62APT	58.9	65.1	1.0	53.0	5.0	5.0	85.0	0.104
P4KE68PT	61.2	74.8	1.0	55.1	5.0	4.3	98.0	0.104
P4KE68APT	64.6	71.4	1.0	58.0	5.0	4.6	92.0	0.104
P4KE75PT	67.5	82.5	1.0	60.7	5.0	3.9	108	0.105
P4KE75APT	71.3	78.8	1.0	64.1	5.0	4.1	103	0.105
P4KE82PT	73.8	90.2	1.0	66.4	5.0	3.6	118	0.105
P4KE82APT	77.9	86.1	1.0	70.1	5.0	3.7	113	0.105
P4KE91PT	81.9	100	1.0	73.7	5.0	3.2	131	0.106
P4KE91APT	86.5	95.5	1.0	77.8	5.0	3.4	125	0.106
P4KE100PT	90.0	110	1.0	81.0	5.0	2.9	144	0.106
P4KE100APT	95.0	105	1.0	85.5	5.0	3.1	137	0.106
P4KE110PT	99.0	121	1.0	89.2	5.0	2.7	158	0.107
P4KE110APT	105	116	1.0	94.0	5.0	2.8	152	0.107
P4KE120PT	108	132	1.0	97.2	5.0	2.4	173	0.107
P4KE120APT	114	126	1.0	102	5.0	2.5	165	0.107
P4KE130PT	117	143	1.0	105	5.0	2.2	187	0.107
P4KE130APT	124	137	1.0	111	5.0	2.3	179	0.107
P4KE150PT	135	165	1.0	121	5.0	2.0	215	0.108
P4KE150APT	143	158	1.0	128	5.0	2.0	207	0.108
P4KE160PT	144	176	1.0	130	5.0	1.8	230	0.108
P4KE160APT	152	168	1.0	136	5.0	1.9	219	0.108
P4KE170PT	153	187	1.0	138	5.0	1.7	244	0.108
P4KE170APT	162	179	1.0	145	5.0	1.8	234	0.108
P4KE180PT	162	198	1.0	146	5.0	1.6	258	0.108
P4KE180APT	171	189	1.0	154	5.0	1.7	246	0.108
P4KE200PT	180	220	1.0	162	5.0	1.5	287	0.108
P4KE200APT	190	210	1.0	171	5.0	1.53	274	0.108
P4KE220PT	198	242	1.0	175	5.0	1.16	344	0.108
P4KE220APT	209	231	1.0	185	5.0	1.22	328	0.108
P4KE250PT	225	275	1.0	202	5.0	1.11	360	0.110
P4KE250APT	237	263	1.0	214	5.0	1.16	344	0.110
P4KE300PT	270	330	1.0	243	5.0	0.93	430	0.110
P4KE300APT	285	315	1.0	256	5.0	0.97	414	0.110
P4KE350PT	315	385	1.0	284	5.0	0.79	504	0.110
P4KE350APT	332	368	1.0	300	5.0	0.83	482	0.110
P4KE400PT	360	440	1.0	324	5.0	0.70	574	0.110
P4KE400APT	380	420	1.0	342	5.0	0.73	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= 25 A (P4KE6.8 thru P4KE91A)
Vf = 5.0 V max. at If = 25 A (P4KE100 thru P4KE400A) 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 (P4KE6.8PT ~ P4KE400APT)

FIG. 1 - PEAK PULSE POWER RATING CURVE

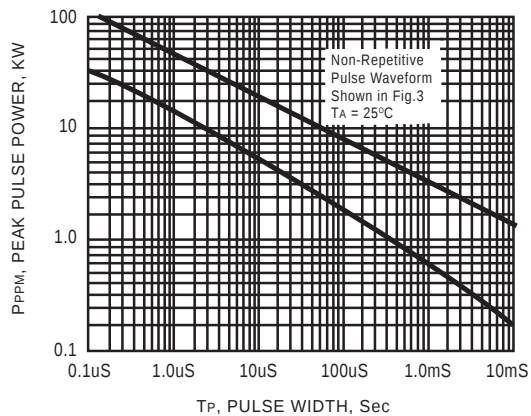


FIG. 2 - PULSE DERATING CURVE

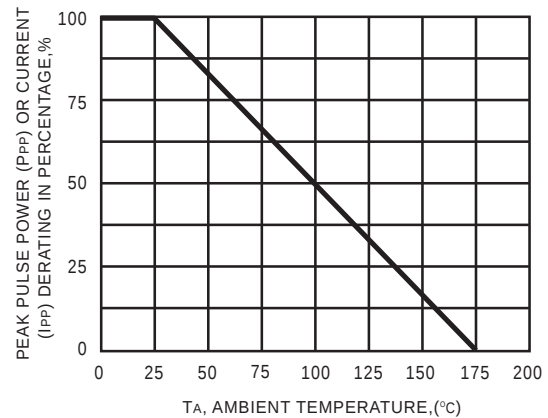


FIG. 3 - PULSE WAVEFORM

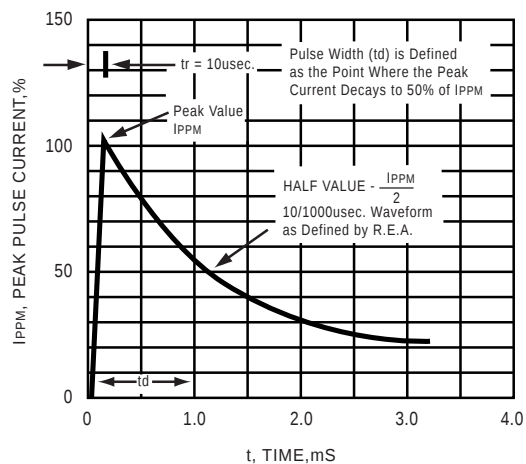
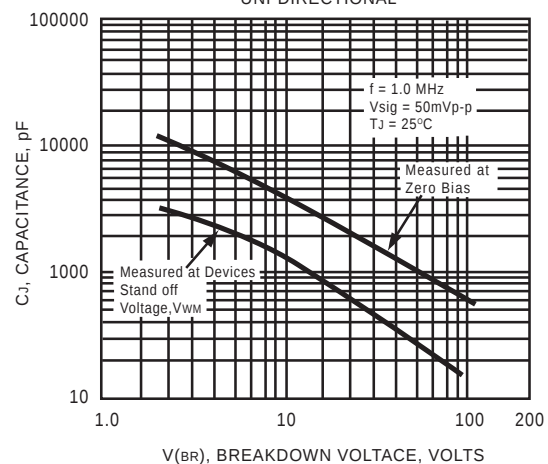


FIG. 4 - TYPICAL JUNCTION CAPACITANCE UNI-DIRECTIONAL



RATING CHARACTERISTIC CURVES (P4KE6.8PT ~ P4KE400APT)

