

**GLASS PASSIVATED UNIDIRECTIONAL AND BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSORS**

REVERSE VOLTAGE - **6.8 to 440** Volts  
POWER DISSIPATION - **400** WATTS

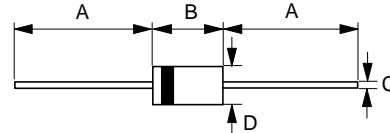
**FEATURES**

- Glass passivated chip
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- The plastic material has U/L recognition 94V-0
- Fast response time

**MECHANICAL DATA**

- Case : Molded Plastic
- Marking : Unidirectional - type number and cathode band Bidirectional - type number only
- Weight : 0.34 grams

**DO-41**



DO-41		
Dim.	Min.	Max.
A	25.4	-
B	4.10	5.20
C	0.71 $\varnothing$	0.86 $\varnothing$
D	2.00 $\varnothing$	2.70 $\varnothing$
All Dimensions in millimeter		

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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

CHARACTERISTICS	SYMBOLS	VALUE	UNIT
PEAK POWER DISSIPATION AT TA = 25°C, TP = 1ms (Note 1)	PPK	Minimum 400	WATTS
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (Note 2) (JEDEC METHOD)	IFSM	40	AMPS.
Steady State Power Dissipation at TL = 75°C lead lengths 0.375" (9.5mm) , see fig. 4	PM(AV)	1.0	WATTS
Maximum Instantaneous forward voltage at 25A for unidirectional devices only (Note 3)	VF	SEE NOTE 3	Volts
Operating Temperature Range	TJ	-55 to +150	°C
Storage Temperature Range	TSTG	-55 to +175	°C

NOTES : 1. Non-repetitive current pulse, per fig. 5 and derated above TA= 25 C per fig. 1  
2. 8.3ms single half sine-wave duty cycle= 4 pulses per minutes maximum (uni-directional units only).  
3. VF= 3.5V on P4KE6.8 thru P4KE200A devices and VF= 5.0V on P4KE220 thru P4KE400A devices.

FIG.1 - PULSE DERATING CURVE

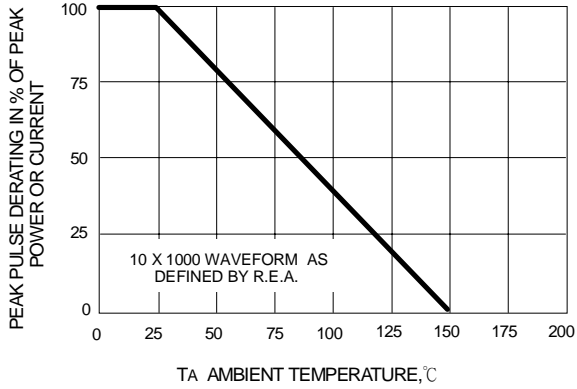


FIG.2 - TYPICAL JUNCTION CAPACITANCE

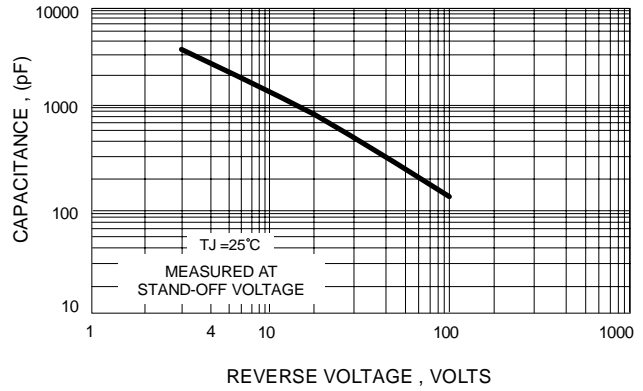


FIG.3 - PULSE RATING CURVE

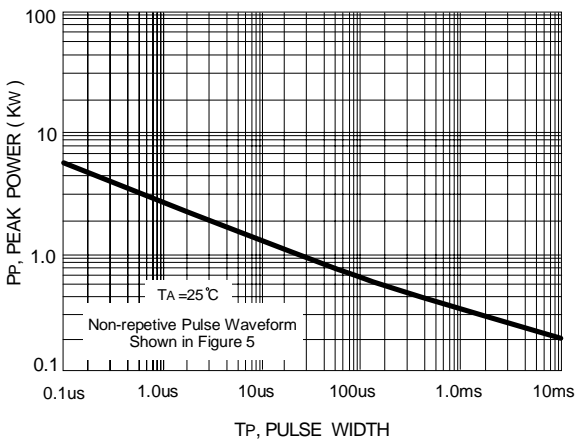


FIG.4 - STEADY STATE POWER DERATING CURVE

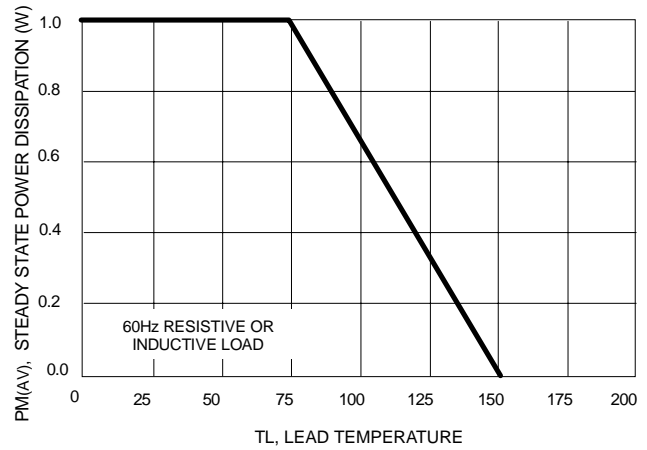
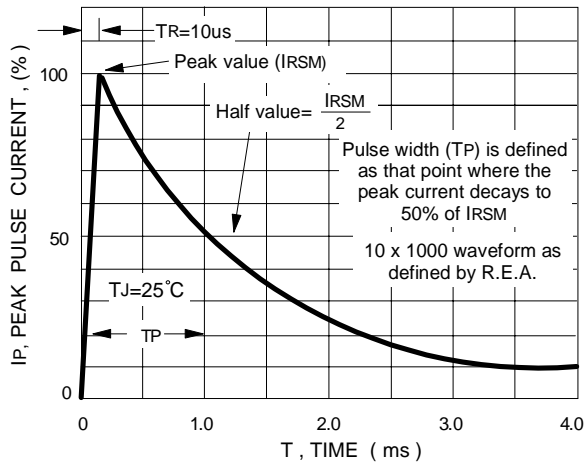


FIG.3 - PULSE WAVEFORM



Type Number	Type Number	Reverse Standoff Voltage	Breakdown Voltage BV Volts @It			Max. Reverse Leakage @VR	Max. Clamping Voltage @Ipp	Max. Peak Pulse Current	Max. Voltage Temp. Variation of Bv
			Min (V)	Max (V)	It (mA)				
(UNI)	(BI)	VR (V)	Min (V)	Max (V)	It (mA)	IR (uA)	Vc (V)	Ipp (A)	%/°C
P4KE6.8	P4KE6.8C	5.50	6.12	7.48	10	1000	10.8	38.00	0.057
P4KE6.8A	P4KE6.8CA	5.80	6.45	7.14	10	1000	10.5	40.00	0.057
P4KE7.5	P4KE7.5C	6.05	6.75	8.25	10	500	11.7	35.00	0.061
P4KE7.5A	P4KE7.5CA	6.40	7.13	7.88	10	500	11.3	37.00	0.061
P4KE8.2	P4KE8.2C	6.63	7.38	9.02	10	200	12.5	33.00	0.065
P4KE8.2A	P4KE8.2CA	7.02	7.79	8.61	10	200	12.1	34.00	0.065
P4KE9.1	P4KE9.1C	7.37	8.19	10.00	1	50	13.8	30.00	0.068
P4KE9.1A	P4KE9.1CA	7.78	8.65	9.55	1	50	13.4	31.00	0.068
P4KE10	P4KE10C	8.10	9.00	11.00	1	10	15.0	28.00	0.073
P4KE10A	P4KE10CA	8.55	9.50	10.50	1	10	14.5	29.00	0.073
P4KE11	P4KE11C	8.92	9.90	12.10	1	5	16.2	26.00	0.075
P4KE11A	P4KE11CA	9.40	10.50	11.60	1	5	15.6	27.00	0.075
P4KE12	P4KE12C	9.72	10.80	13.20	1	5	17.3	24.00	0.078
P4KE12A	P4KE12CA	10.20	11.40	12.60	1	5	16.7	25.00	0.078
P4KE13	P4KE13C	10.5	11.7	14.3	1	5	19.0	22.00	0.081
P4KE13A	P4KE13CA	11.1	12.4	13.7	1	5	18.2	23.00	0.081
P4KE15	P4KE15C	12.1	13.5	16.5	1	5	22.0	19.00	0.084
P4KE15A	P4KE15CA	12.8	14.3	15.8	1	5	21.2	20.00	0.084
P4KE16	P4KE16C	12.9	14.4	17.6	1	5	23.5	17.80	0.086
P4KE16A	P4KE16CA	13.6	15.2	16.8	1	5	22.5	18.60	0.086
P4KE18	P4KE18C	14.5	16.2	19.8	1	5	26.5	16.00	0.088
P4KE18A	P4KE18CA	15.3	17.1	18.9	1	5	25.2	16.50	0.088
P4KE20	P4KE20C	16.2	18.0	22.0	1	5	29.1	14.00	0.090
P4KE20A	P4KE20CA	17.1	19.0	21.0	1	5	27.7	15.00	0.090
P4KE22	P4KE22C	17.8	19.8	24.2	1	5	31.9	13.00	0.092
P4KE22A	P4KE22CA	18.8	20.9	23.1	1	5	30.6	13.70	0.092
P4KE24	P4KE24C	19.4	21.6	26.4	1	5	34.7	12.00	0.094
P4KE24A	P4KE24CA	20.5	22.8	25.2	1	5	33.2	12.60	0.094
P4KE27	P4KE27C	21.8	24.3	29.7	1	5	39.1	10.70	0.096
P4KE27A	P4KE27CA	23.1	25.7	28.4	1	5	37.5	11.00	0.096
P4KE30	P4KE30C	24.3	27.0	33.0	1	5	43.5	9.60	0.097
P4KE30A	P4KE30CA	25.6	28.5	31.5	1	5	41.4	10.00	0.097
P4KE33	P4KE33C	26.8	29.7	36.3	1	5	47.7	8.80	0.098
P4KE33A	P4KE33CA	28.2	31.4	34.7	1	5	45.7	9.00	0.098
P4KE36	P4KE36C	29.1	32.4	39.6	1	5	52.0	8.00	0.099
P4KE36A	P4KE36CA	30.8	34.2	37.8	1	5	49.9	8.40	0.099
P4KE39	P4KE39C	31.6	35.1	42.9	1	5	56.4	7.40	0.100
P4KE39A	P4KE39CA	33.3	37.1	41.0	1	5	53.9	7.70	0.100
P4KE43	P4KE43C	34.8	38.7	47.3	1	5	61.9	6.70	0.101
P4KE43A	P4KE43CA	36.8	40.9	45.2	1	5	59.3	7.00	0.101
P4KE47	P4KE47C	38.1	42.3	51.7	1	5	67.8	6.20	0.101
P4KE47A	P4KE47CA	40.2	44.7	49.4	1	5	64.8	6.40	0.101
P4KE51	P4KE51C	41.3	45.9	56.1	1	5	73.5	5.70	0.102
P4KE51A	P4KE51CA	43.6	48.5	53.6	1	5	70.1	6.00	0.102
P4KE56	P4KE56C	45.4	50.4	61.6	1	5	80.5	5.20	0.103
P4KE56A	P4KE56CA	47.8	53.2	58.8	1	5	77.0	5.40	0.103

Type Number	Type Number	Reverse Standoff Voltage	Breakdown Voltage BV Volts @It			Max. Reverse Leakage @VR	Max. Clamping Voltage @Ipp	Max. Peak Pulse Current	Max. Voltage Temp. Variation of Bv
			(UNI)	(BI)	VR(V)				
P4KE62	P4KE62C	50.2	55.8	68.2	1	5	89.0	4.70	0.104
P4KE62A	P4KE62CA	53.0	58.9	65.1	1	5	85.0	5.00	0.104
P4KE68	P4KE68C	55.1	61.2	74.8	1	5	98.0	4.20	0.104
P4KE68A	P4KE68CA	58.1	64.6	71.4	1	5	92.0	4.50	0.104
P4KE75	P4KE75C	60.7	67.5	82.5	1	5	108.0	3.80	0.105
P4KE75A	P4KE75CA	64.7	71.3	78.8	1	5	103.0	4.00	0.105
P4KE82	P4KE82C	66.4	73.8	90.2	1	5	118.0	3.50	0.105
P4KE82A	P4KE82CA	70.1	77.9	86.1	1	5	113.0	3.70	0.105
P4KE91	P4KE91C	73.7	81.9	100.0	1	5	131.0	3.20	0.106
P4KE91A	P4KE91CA	77.8	86.5	95.5	1	5	125.0	3.30	0.106
P4KE100	P4KE100C	81.0	90.0	110.0	1	5	144.0	2.90	0.106
P4KE100A	P4KE100CA	85.5	95.0	105.0	1	5	137.0	3.00	0.106
P4KE110	P4KE110C	89.2	99.0	121.0	1	5	158.0	2.60	0.107
P4KE110A	P4KE110CA	94.0	105.0	116.0	1	5	152.0	2.70	0.107
P4KE120	P4KE120C	97.2	108.0	132.0	1	5	173.0	2.40	0.107
P4KE120A	P4KE120CA	102.0	114.0	126.0	1	5	165.0	2.50	0.107
P4KE130	P4KE130C	105.0	117.0	143.0	1	5	187.0	2.20	0.107
P4KE130A	P4KE130CA	111.0	124.0	137.0	1	5	179.0	2.30	0.107
P4KE150	P4KE150C	121.0	135.0	165.0	1	5	215.0	1.90	0.108
P4KE150A	P4KE150CA	128.0	143.0	158.0	1	5	207.0	2.00	0.108
P4KE160	P4KE160C	130.0	144.0	176.0	1	5	230.0	1.80	0.108
P4KE160A	P4KE160CA	136.0	152.0	168.0	1	5	219.0	1.90	0.108
P4KE170	P4KE170C	138.0	153.0	187.0	1	5	244.0	1.70	0.108
P4KE170A	P4KE170CA	145.0	162.0	179.0	1	5	234.0	1.80	0.108
P4KE180	P4KE180C	146.0	162.0	198.0	1	5	258.0	1.60	0.108
P4KE180A	P4KE180CA	154.0	171.0	189.0	1	5	246.0	1.70	0.108
P4KE200	P4KE200C	162.0	180.0	220.0	1	5	287.0	1.40	0.108
P4KE200A	P4KE200CA	171.0	190.0	210.0	1	5	274.0	1.51	0.108
P4KE220	P4KE220C	175.0	198.0	242.0	1	5	344.0	1.20	0.108
P4KE220A	P4KE220CA	185.0	209.0	231.0	1	5	328.0	1.30	0.108
P4KE250	P4KE250C	202.0	225.0	275.0	1	5	360.0	1.10	0.110
P4KE250A	P4KE250CA	214.0	237.0	263.0	1	5	344.0	1.20	0.110
P4KE300	P4KE300C	243.0	270.0	330.0	1	5	430.0	0.97	0.110
P4KE300A	P4KE300CA	256.0	285.0	315.0	1	5	414.0	1.00	0.110
P4KE350	P4KE350C	284.0	315.0	385.0	1	5	504.0	0.83	0.110
P4KE350A	P4KE350CA	300.0	332.0	368.0	1	5	482.0	0.87	0.110
P4KE400	P4KE400C	324.0	360.0	440.0	1	5	574.0	0.73	0.110
P4KE400A	P4KE400CA	342.0	380.0	420.0	1	5	548.0	0.76	0.110
P4KE440	P4KE440C	356.0	396.0	484.0	1	5	631.0	0.66	0.110
P4KE440A	P4KE440CA	376.0	418.0	462.0	1	5	602.0	0.69	0.110

Suffix 'C' denotes bidirectional device. Suffix 'A' denotes 5% tolerance device, no suffix denotes 10% tolerance device .

1. For bidirectional devices having VR of 10 volts and under, the IR limit is doubled .
2. For unidirectional devices P4KE6.8 to P4KE200A, V<sub>Fmax</sub> = 3.5V at I<sub>F</sub>=50A 300us square wave pulse.  
For unidirectional devices P4KE220 to P4KE400A, V<sub>Fmax</sub> = 5.0V at I<sub>F</sub>=50A 300us square wave pulse.