

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

REVERSE VOLTAGE - **6.8 to 400** Volts  
POWER DISSIPATION - **600** WATTS

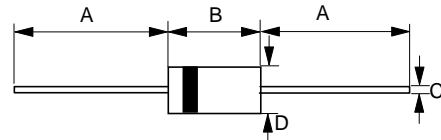
**FEATURES**

- 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 : 0.4 grams

**DO-15**



DO-15		
Dim.	Min.	Max.
A	25.4	-
B	5.80	7.60
C	0.71 $\varnothing$	0.86 $\varnothing$
D	2.60 $\varnothing$	3.60 $\varnothing$

All Dimensions in millimeter

Datasheet Directory

**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 600	WATTS
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (Note 2) (JEDEC METHOD)	IFSM	100	AMPS.
Steady State Power Dissipation at TL = 75°C lead lengths 0.375" (9.5mm) , see fig. 4	PM(AV)	5.0	WATTS
Maximum Instantaneous forward voltage at 50A for unidirectional devices only (Note 2)	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 P6KE6.8 thru P6KE200A devices and VF= 5.0V on P6KE220 thru P6KE400A devices.

FIG.1 - PULSE DERATING CURVE

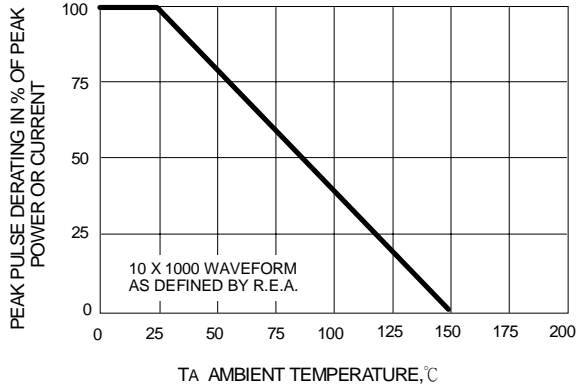


FIG.2 - TYPICAL JUNCTION CAPACITANCE

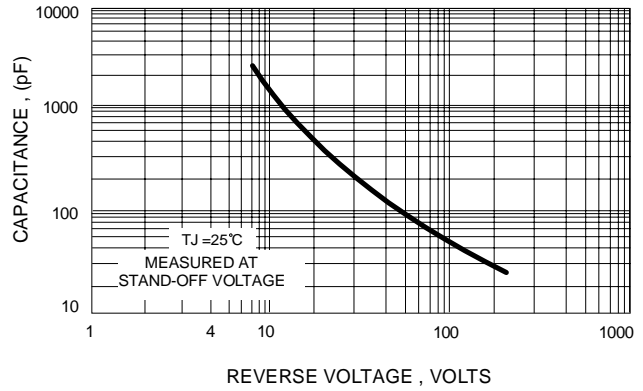


FIG.3 - PULSE RATING CURVE

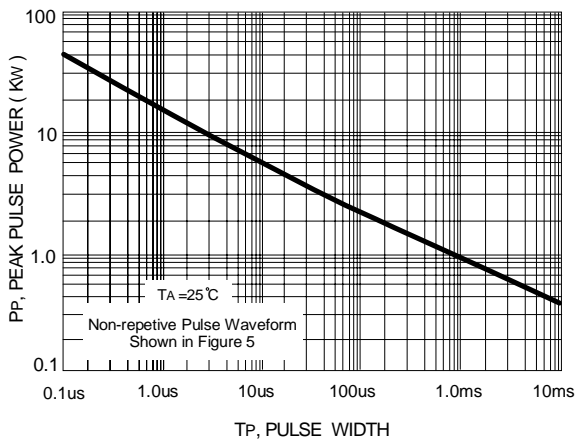


FIG.4 - STEADY STATE POWER DERATING CURVE

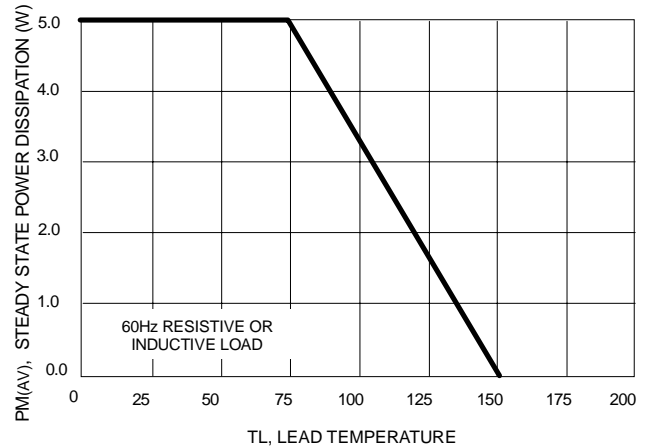
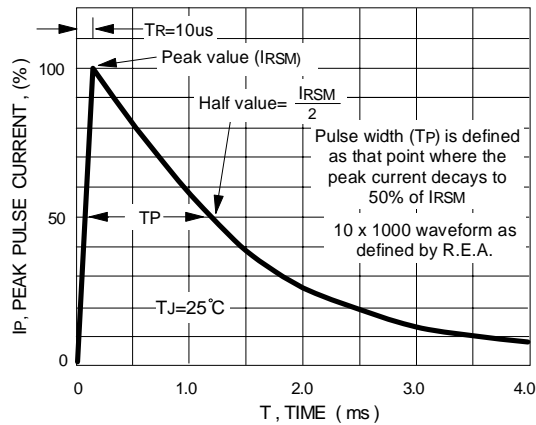


FIG.5 - PULSE WAVEFORM



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
			(UNI)	(BI)	VR (V)				
P6KE6.8	P6KE6.8C	5.50	6.12	7.48	10	1000	10.8	56	0.057
P6KE6.8A	P6KE6.8CA	5.80	6.45	7.14	10	1000	10.5	57	0.057
P6KE7.5	P6KE7.5C	6.05	6.75	8.25	10	500	11.7	51	0.061
P6KE7.5A	P6KE7.5CA	6.40	7.13	7.88	10	500	11.3	53	0.061
P6KE8.2	P6KE8.2C	6.63	7.38	9.02	10	200	12.5	48	0.065
P6KE8.2A	P6KE8.2CA	7.02	7.79	8.61	10	200	12.1	50	0.065
P6KE9.1	P6KE9.1C	7.37	8.19	10.00	1	50	13.8	44	0.068
P6KE9.1A	P6KE9.1CA	7.78	8.65	9.55	1	50	13.4	45	0.068
P6KE10	P6KE10C	8.10	9.00	11.00	1	10	15.0	40	0.073
P6KE10A	P6KE10CA	8.55	9.50	10.50	1	10	14.5	41	0.073
P6KE11	P6KE11C	8.92	9.90	12.10	1	5	16.2	37	0.075
P6KE11A	P6KE11CA	9.40	10.50	11.60	1	5	15.6	38	0.075
P6KE12	P6KE12C	9.72	10.80	13.20	1	5	17.3	35	0.078
P6KE12A	P6KE12CA	10.20	11.40	12.60	1	5	16.7	36	0.078
P6KE13	P6KE13C	10.5	11.7	14.3	1	5	19.0	32	0.081
P6KE13A	P6KE13CA	11.1	12.4	13.7	1	5	18.2	33	0.081
P6KE15	P6KE15C	12.1	13.5	16.5	1	5	22.0	27	0.084
P6KE15A	P6KE15CA	12.8	14.3	15.8	1	5	21.2	28	0.084
P6KE16	P6KE16C	12.9	14.4	17.6	1	5	23.5	26	0.086
P6KE16A	P6KE16CA	13.6	15.2	16.8	1	5	22.5	27	0.086
P6KE18	P6KE18C	14.5	16.2	19.8	1	5	26.5	23	0.088
P6KE18A	P6KE18CA	15.3	17.1	18.9	1	5	25.2	24	0.088
P6KE20	P6KE20C	16.2	18.0	22.0	1	5	29.1	21	0.090
P6KE20A	P6KE20CA	17.1	19.0	21.0	1	5	27.7	22	0.090
P6KE22	P6KE22C	17.8	19.8	24.2	1	5	31.9	19	0.092
P6KE22A	P6KE22CA	18.8	20.9	23.1	1	5	30.6	20	0.092
P6KE24	P6KE24C	19.4	21.6	26.4	1	5	34.7	17	0.094
P6KE24A	P6KE24CA	20.5	22.8	25.2	1	5	33.2	18	0.094
P6KE27	P6KE27C	21.8	24.3	29.7	1	5	39.1	15	0.096
P6KE27A	P6KE27CA	23.1	25.7	28.4	1	5	37.5	16	0.096
P6KE30	P6KE30C	24.3	27.0	33.0	1	5	43.5	14	0.097
P6KE30A	P6KE30CA	25.6	28.5	31.5	1	5	41.4	14.4	0.097
P6KE33	P6KE33C	26.8	29.7	36.3	1	5	47.7	12.6	0.098
P6KE33A	P6KE33CA	28.2	31.4	34.7	1	5	45.7	13.2	0.098
P6KE36	P6KE36C	29.1	32.4	39.6	1	5	52.0	11.6	0.099
P6KE36A	P6KE36CA	30.8	34.2	37.8	1	5	49.9	12	0.099
P6KE39	P6KE39C	31.6	35.1	42.9	1	5	56.4	10.5	0.100
P6KE39A	P6KE39CA	33.3	37.1	41.0	1	5	53.9	11.2	0.100
P6KE43	P6KE43C	34.8	38.7	47.3	1	5	61.9	9.6	0.101
P6KE43A	P6KE43CA	36.8	40.9	45.2	1	5	59.3	10.1	0.101
P6KE47	P6KE47C	38.1	42.3	51.7	1	5	67.8	8.9	0.101
P6KE47A	P6KE47CA	40.2	44.7	49.4	1	5	64.8	9.3	0.101
P6KE51	P6KE51C	41.3	45.9	56.1	1	5	73.5	8.2	0.102
P6KE51A	P6KE51CA	43.6	48.5	53.6	1	5	70.1	8.6	0.102
P6KE56	P6KE56C	45.4	50.4	61.6	1	5	80.5	7.4	0.103
P6KE56A	P6KE56CA	47.8	53.2	58.8	1	5	77.0	7.8	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)				
P6KE62	P6KE62C	50.2	55.8	68.2	1	5	89.0	6.8	0.104
P6KE62A	P6KE62CA	53.0	58.9	65.1	1	5	85.0	7.1	0.104
P6KE68	P6KE68C	55.1	61.2	74.8	1	5	98.0	6.1	0.104
P6KE68A	P6KE68CA	58.1	64.6	71.4	1	5	92.0	6.5	0.104
P6KE75	P6KE75C	60.7	67.5	82.5	1	5	108.0	5.5	0.105
P6KE75A	P6KE75CA	64.7	71.3	78.8	1	5	103.0	5.8	0.105
P6KE82	P6KE82C	66.4	73.8	90.2	1	5	118.0	5.1	0.105
P6KE82A	P6KE82CA	70.1	77.9	86.1	1	5	113.0	5.3	0.105
P6KE91	P6KE91C	73.7	81.9	100.0	1	5	131.0	4.5	0.106
P6KE91A	P6KE91CA	77.8	86.5	95.5	1	5	125.0	4.8	0.106
P6KE100	P6KE100C	81.0	90.0	110.0	1	5	144.0	4.2	0.106
P6KE100A	P6KE100CA	85.5	95.0	105.0	1	5	137.0	4.4	0.106
P6KE110	P6KE110C	89.2	99.0	121.0	1	5	158.0	3.8	0.107
P6KE110A	P6KE110CA	94.0	105.0	116.0	1	5	152.0	4.0	0.107
P6KE120	P6KE120C	97.2	108.0	132.0	1	5	173.0	3.5	0.107
P6KE120A	P6KE120CA	102.0	114.0	126.0	1	5	165.0	3.6	0.107
P6KE130	P6KE130C	105.0	117.0	143.0	1	5	187.0	3.2	0.107
P6KE130A	P6KE130CA	111.0	124.0	137.0	1	5	179.0	3.3	0.107
P6KE150	P6KE150C	121.0	135.0	165.0	1	5	215.0	2.8	0.108
P6KE150A	P6KE150CA	128.0	143.0	158.0	1	5	207.0	2.9	0.108
P6KE160	P6KE160C	130.0	144.0	176.0	1	5	230.0	2.6	0.108
P6KE160A	P6KE160CA	136.0	152.0	168.0	1	5	219.0	2.7	0.108
P6KE170	P6KE170C	138.0	153.0	187.0	1	5	244.0	2.5	0.108
P6KE170A	P6KE170CA	145.0	162.0	179.0	1	5	234.0	2.6	0.108
P6KE180	P6KE180C	146.0	162.0	198.0	1	5	258.0	2.3	0.108
P6KE180A	P6KE180CA	154.0	171.0	189.0	1	5	246.0	2.4	0.108
P6KE200	P6KE200C	162.0	180.0	220.0	1	5	287.0	2.1	0.108
P6KE200A	P6KE200CA	171.0	190.0	210.0	1	5	274.0	2.2	0.108
P6KE220	P6KE220C	175.0	198.0	242.0	1	5	344.0	1.75	0.108
P6KE220A	P6KE220CA	185.0	209.0	231.0	1	5	328.0	1.83	0.108
P6KE250	P6KE250C	202.0	225.0	275.0	1	5	360.0	1.67	0.110
P6KE250A	P6KE250CA	214.0	237.0	263.0	1	5	344.0	1.75	0.110
P6KE300	P6KE300C	243.0	270.0	330.0	1	5	430.0	1.4	0.110
P6KE300A	P6KE300CA	256.0	285.0	315.0	1	5	414.0	1.45	0.110
P6KE350	P6KE350C	284.0	315.0	385.0	1	5	504.0	1.2	0.110
P6KE350A	P6KE350CA	300.0	332.0	368.0	1	5	482.0	1.25	0.110
P6KE400	P6KE400C	324.0	360.0	440.0	1	5	574.0	1.05	0.110
P6KE400A	P6KE400CA	342.0	380.0	420.0	1	5	548.0	1.1	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 P6KE6.8 to P6KE200A, VFmax = 3.5V at IF=50A 300us square wave pulse.  
For unidirectional devices P6KE220 to P6KE400A, VFmax = 5.0V at IF=50A 300us square wave pulse.