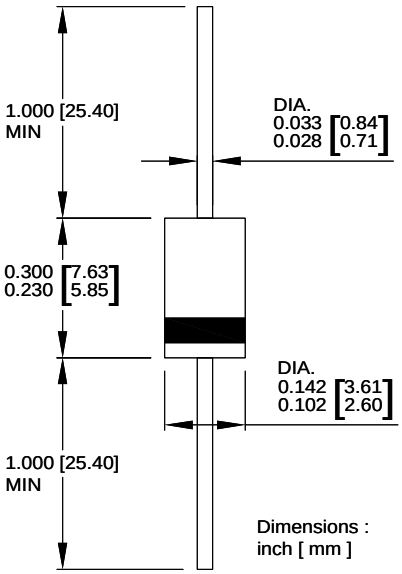
Breakdown Voltage: 6.8 to 600 V
Peak Pulse Power: 600 W

Features

- Glass passivated chip
- 600 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

Axial Lead

DO-15



Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guranteed
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	600	W
Peak pulse current wih a 10/1000μs waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 75 °C	P_D	5.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	I_{FSM}	100	A
Maximum instantaneous forward voltage at 50 A for unidirectional only(3)	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_J, T_{STG}	–55 to +150	°C

Note:

(1)Non-repetitive current pulse per Fig.5 and derated above T_A= 25 °C per Fig.1

(2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

(3)V_F<3.5V for devices of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

Ratings and Characteristics Curves (T_A=25℃ unless otherwise noted)

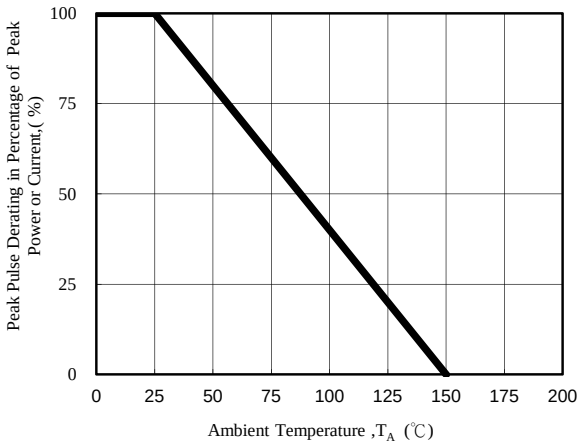


Fig. 1 - Pulse Derating Curve

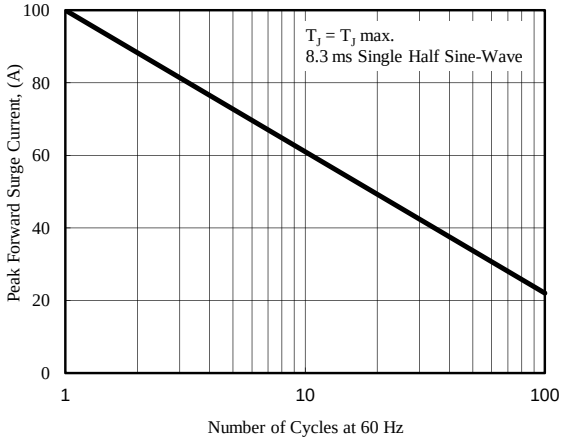


Fig. 2 - Maximum Non-Repetitive Surge Current

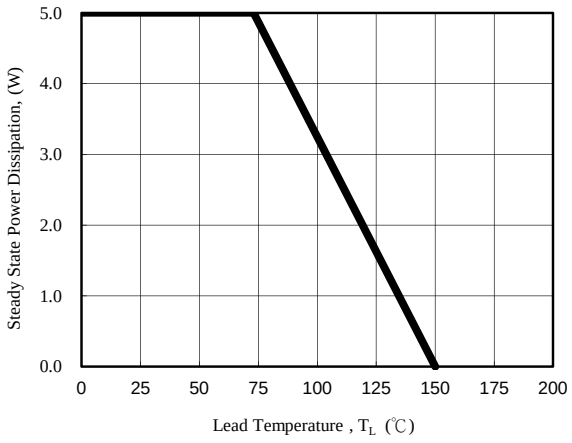


Fig. 3 - Steady State Power Derating Curve

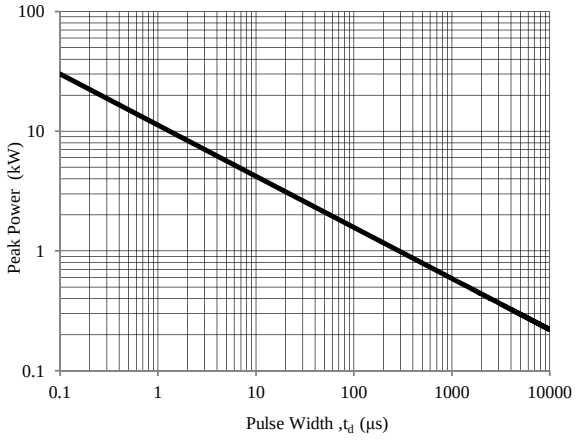


Fig. 4 - Peak Pulse Power Rating Curve

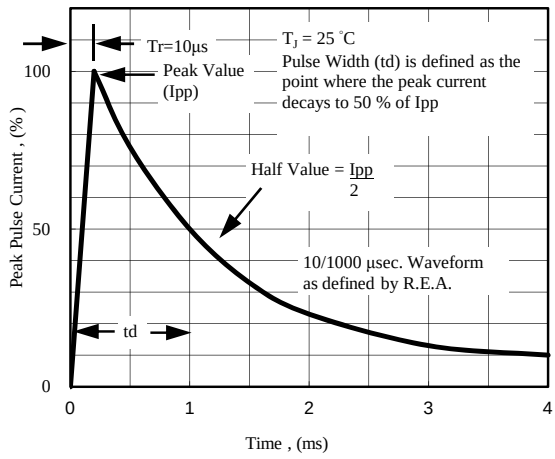


Fig. 5 - Pulse Waveform

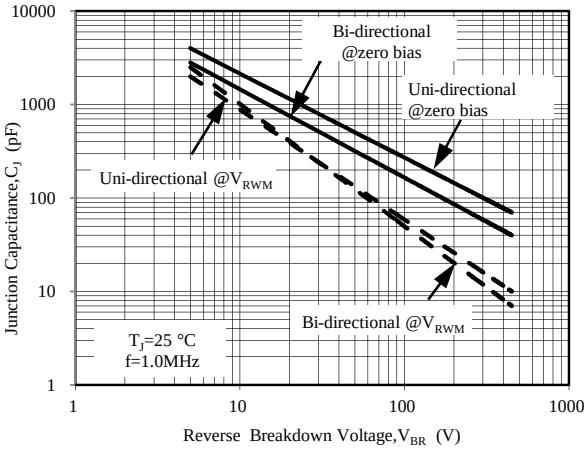


Fig. 6 - Typical Junction Capacitance

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @I_{PP} (V)
		Min (V)	Max (V)	I_T (mA)				
TP6KE6.8	TP6KE6.8C	6.12	7.48	10	1000	5.5	55.56	10.8
TP6KE6.8A	TP6KE6.8CA	6.46	7.14	10	1000	5.8	57.14	10.5
TP6KE7.5	TP6KE7.5C	6.75	8.25	10	500	6.1	51.28	11.7
TP6KE7.5A	TP6KE7.5CA	7.13	7.88	10	500	6.4	53.10	11.3
TP6KE8.2	TP6KE8.2C	7.38	9.02	10	200	6.6	48.00	12.5
TP6KE8.2A	TP6KE8.2CA	7.79	8.61	10	200	7.0	49.59	12.1
TP6KE9.1	TP6KE9.1C	8.19	10.01	1	50	7.4	43.48	13.8
TP6KE9.1A	TP6KE9.1CA	8.65	9.56	1	50	7.8	44.78	13.4
TP6KE10	TP6KE10C	9.00	11.00	1	10	8.1	40.00	15.0
TP6KE10A	TP6KE10CA	9.50	10.50	1	10	8.6	41.38	14.5
TP6KE11	TP6KE11C	9.90	12.10	1	5	8.9	37.04	16.2
TP6KE11A	TP6KE11CA	10.45	11.55	1	5	9.4	38.46	15.6
TP6KE12	TP6KE12C	10.80	13.20	1	5	9.7	34.68	17.3
TP6KE12A	TP6KE12CA	11.40	12.60	1	5	10.2	35.93	16.7
TP6KE13	TP6KE13C	11.70	14.30	1	1	10.5	31.58	19.0
TP6KE13A	TP6KE13CA	12.35	13.65	1	1	11.1	32.97	18.2
TP6KE15	TP6KE15C	13.50	16.50	1	1	12.1	27.27	22.0
TP6KE15A	TP6KE15CA	14.25	15.75	1	1	12.8	28.30	21.2
TP6KE16	TP6KE16C	14.40	17.60	1	1	12.9	25.53	23.5
TP6KE16A	TP6KE16CA	15.20	16.80	1	1	13.6	26.67	22.5
TP6KE18	TP6KE18C	16.20	19.80	1	1	14.5	22.64	26.5
TP6KE18A	TP6KE18CA	17.10	18.90	1	1	15.3	23.81	25.2
TP6KE20	TP6KE20C	18.00	22.00	1	1	16.2	20.62	29.1
TP6KE20A	TP6KE20CA	19.00	21.00	1	1	17.1	21.66	27.7
TP6KE20	TP6KE22C	19.80	24.20	1	1	17.8	18.81	31.9
TP6KE22A	TP6KE22CA	20.90	23.10	1	1	18.8	19.61	30.6
TP6KE24	TP6KE24C	21.60	26.40	1	1	19.4	17.29	34.7
TP6KE24A	TP6KE24CA	22.80	25.20	1	1	20.5	18.07	33.2
TP6KE27	TP6KE27C	24.30	29.70	1	1	21.8	15.35	39.1
TP6KE27A	TP6KE27CA	25.65	28.35	1	1	23.1	16.00	37.5
TP6KE30	TP6KE30C	27.00	33.00	1	1	24.3	13.79	43.5
TP6KE30A	TP6KE30CA	28.50	31.50	1	1	25.6	14.49	41.4
TP6KE33	TP6KE33C	29.70	36.30	1	1	26.8	12.58	47.7
TP6KE33A	TP6KE33CA	31.35	34.65	1	1	28.2	13.13	45.7
TP6KE36	TP6KE36C	32.40	39.60	1	1	29.1	11.54	52.0
TP6KE36A	TP6KE36CA	34.20	37.80	1	1	30.8	12.02	49.9
TP6KE39	TP6KE39C	35.10	42.90	1	1	31.6	10.64	56.4
TP6KE39A	TP6KE39CA	37.05	40.95	1	1	33.3	11.13	53.9
TP6KE43	TP6KE43C	38.70	47.30	1	1	34.8	9.69	61.9
TP6KE43A	TP6KE43CA	40.85	45.15	1	1	36.8	10.12	59.3
TP6KE47	TP6KE47C	42.30	51.70	1	1	38.1	8.85	67.8
TP6KE47A	TP6KE47CA	44.65	49.35	1	1	40.2	9.26	64.8
TP6KE51	TP6KE51C	45.90	56.10	1	1	41.3	8.16	73.5
TP6KE51A	TP6KE51CA	48.45	53.55	1	1	43.6	8.56	70.1
TP6KE56	TP6KE56C	50.40	61.60	1	1	45.4	7.45	80.5
TP6KE56A	TP6KE56CA	53.20	58.80	1	1	47.8	7.79	77.0

Note:

1. Suffix 'A ' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @I_{PP} (V)
		Min (V)	Max (V)	I_T (mA)				
TP6KE62	TP6KE62C	55.80	68.20	1	1	50.2	6.74	89.0
TP6KE62A	TP6KE62CA	58.90	65.10	1	1	53.0	7.06	85.0
TP6KE68	TP6KE68C	61.20	74.80	1	1	55.1	6.12	98.0
TP6KE68A	TP6KE68CA	64.60	71.40	1	1	58.1	6.52	92.0
TP6KE75	TP6KE75C	67.50	82.50	1	1	60.7	5.56	108.0
TP6KE75A	TP6KE75CA	71.25	78.75	1	1	64.1	5.83	103.0
TP6KE82	TP6KE82C	73.80	90.20	1	1	66.4	5.08	118.0
TP6KE82A	TP6KE82CA	77.90	86.10	1	1	70.1	5.31	113.0
TP6KE91	TP6KE91C	81.90	100.10	1	1	73.7	4.58	131.0
TP6KE91A	TP6KE91CA	86.45	95.55	1	1	77.8	4.80	125.0
TP6KE100	TP6KE100C	90.00	110.00	1	1	81.0	4.17	144.0
TP6KE100A	TP6KE100CA	95.00	105.00	1	1	85.5	4.38	137.0
TP6KE110	TP6KE110C	99.00	121.00	1	1	89.2	3.80	158.0
TP6KE110A	TP6KE110CA	104.50	115.50	1	1	94.0	3.95	152.0
TP6KE120	TP6KE120C	108.00	132.00	1	1	97.2	3.47	173.0
TP6KE120A	TP6KE120CA	114.00	126.00	1	1	102.0	3.64	165.0
TP6KE130	TP6KE130C	117.00	143.00	1	1	105.0	3.21	187.0
TP6KE130A	TP6KE130CA	123.50	136.50	1	1	111.0	3.35	179.0
TP6KE150	TP6KE150C	135.00	165.00	1	1	121.0	2.79	215.0
TP6KE150A	TP6KE150CA	142.50	157.50	1	1	128.0	2.90	207.0
TP6KE160	TP6KE160C	144.00	176.00	1	1	130.0	2.61	230.0
TP6KE160A	TP6KE160CA	152.00	168.00	1	1	136.0	2.74	219.0
TP6KE170	TP6KE170C	153.00	187.00	1	1	138.0	2.46	244.0
TP6KE170A	TP6KE170CA	161.50	178.50	1	1	145.0	2.56	234.0
TP6KE180	TP6KE180C	162.00	198.00	1	1	146.0	2.33	258.0
TP6KE180A	TP6KE180CA	171.00	189.00	1	1	154.0	2.44	246.0
TP6KE200	TP6KE200C	180.00	220.00	1	1	162.0	2.09	287.0
TP6KE200A	TP6KE200CA	190.00	210.00	1	1	171.0	2.19	274.0
TP6KE220	TP6KE220C	198.00	242.00	1	1	175.0	1.74	344.0
TP6KE220A	TP6KE220CA	209.00	231.00	1	1	185.0	1.83	328.0
TP6KE250	TP6KE250C	225.00	275.00	1	1	202.0	1.67	360.0
TP6KE250A	TP6KE250CA	237.50	262.50	1	1	214.0	1.74	344.0
TP6KE300	TP6KE300C	270.00	330.00	1	1	243.0	1.40	430.0
TP6KE300A	TP6KE300CA	285.00	315.00	1	1	256.0	1.45	414.0
TP6KE350	TP6KE350C	315.00	385.00	1	1	284.2	1.19	504.0
TP6KE350A	TP6KE350CA	332.50	367.50	1	1	299.3	1.24	482.0
TP6KE380	TP6KE380C	342.00	418.00	1	1	308.6	1.10	547.2
TP6KE380A	TP6KE380CA	361.00	399.00	1	1	324.9	1.14	524.4
TP6KE400	TP6KE400C	360.00	440.00	1	1	324.8	1.05	574.0
TP6KE400A	TP6KE400CA	380.00	420.00	1	1	342.0	1.09	548.0
TP6KE440	TP6KE440C	396.00	484.00	1	1	357.3	0.95	633.6
TP6KE440A	TP6KE440CA	418.00	462.00	1	1	376.2	0.99	607.2
TP6KE500	TP6KE500C	450.00	550.00	1	1	406.0	0.83	720.0
TP6KE500A	TP6KE500CA	475.00	525.00	1	1	427.5	0.87	690.0
TP6KE520	TP6KE520C	468.00	572.00	1	1	422.2	0.80	748.8
TP6KE520A	TP6KE520CA	494.00	546.00	1	1	444.6	0.84	717.6
TP6KE550	TP6KE550C	495.00	605.00	1	1	446.6	0.76	792.0
TP6KE550A	TP6KE550CA	522.50	577.50	1	1	470.3	0.79	759.0
TP6KE600	TP6KE600C	540.00	660.00	1	1	487.2	0.69	864.0
TP6KE600A	TP6KE600CA	570.00	630.00	1	1	513.0	0.72	828.0