Breakdown Voltage: 6.8 to 600 V
Peak Pulse Power: 400 W

Features

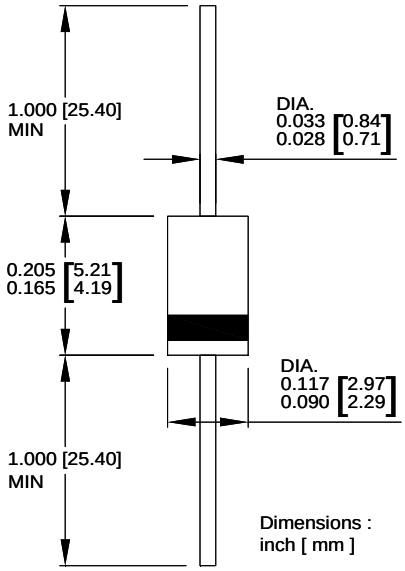
- Glass passivated chip
- 400 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

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

Axial Lead

DO-41



Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	400	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	1.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	I_{FSM}	40	A
Maximum instantaneous forward voltage at 25 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)

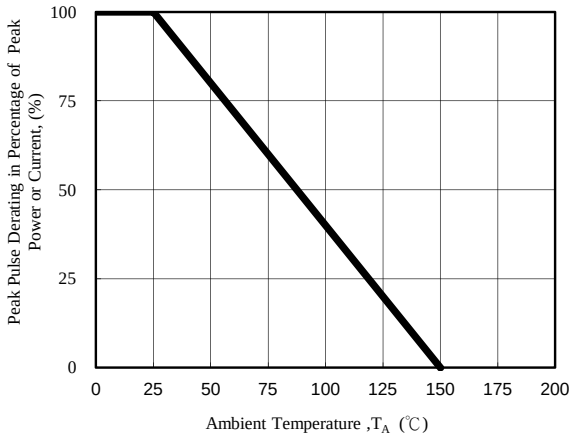


Fig. 1 - Pulse Derating Curve

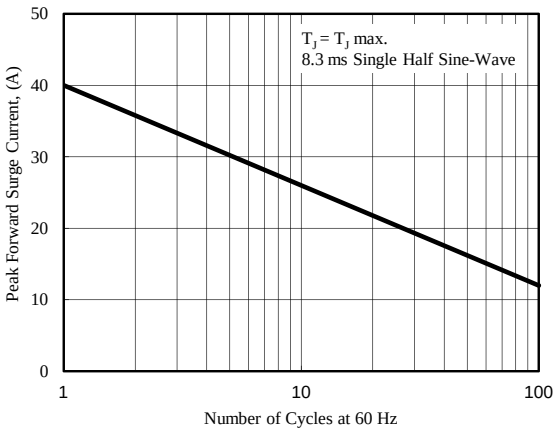


Fig. 2 - Maximum Non-Repetitive Surge Current

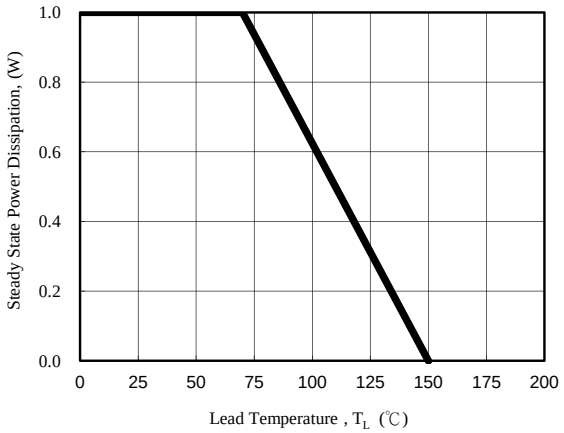


Fig. 3 - Steady State Power Derating Curve

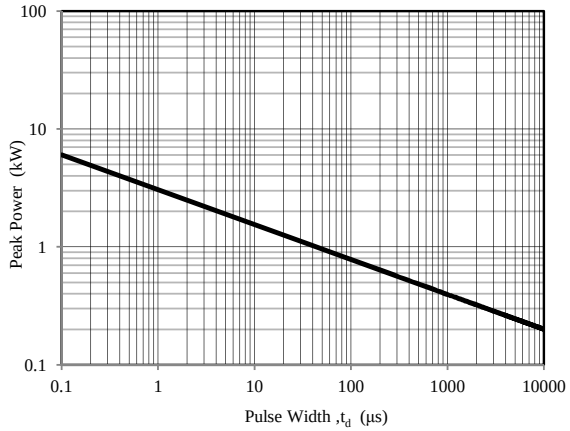


Fig. 4 - Peak Pulse Power Rating Curve

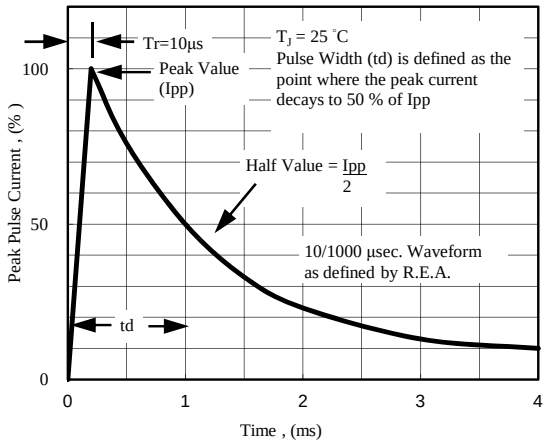


Fig. 5 - Pulse Waveform

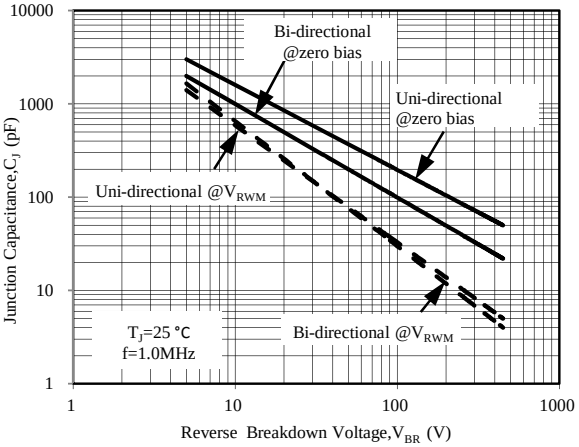


Fig. 6 - Typical Junction Capacitance

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)				
TP4KE6.8	TP4KE6.8C	6.12	7.48	10	1000	5.5	37.04	10.8
TP4KE6.8A	TP4KE6.8CA	6.46	7.14	10	1000	5.8	38.10	10.5
TP4KE7.5	TP4KE7.5C	6.75	8.25	10	500	6.1	34.19	11.7
TP4KE7.5A	TP4KE7.5CA	7.13	7.88	10	500	6.4	35.40	11.3
TP4KE8.2	TP4KE8.2C	7.38	9.02	10	200	6.6	32.00	12.5
TP4KE8.2A	TP4KE8.2CA	7.79	8.61	10	200	7.0	33.06	12.1
TP4KE9.1	TP4KE9.1C	8.19	10.01	1	50	7.4	28.99	13.8
TP4KE9.1A	TP4KE9.1CA	8.65	9.56	1	50	7.8	29.85	13.4
TP4KE10	TP4KE10C	9.00	11.00	1	10	8.1	26.67	15.0
TP4KE10A	TP4KE10CA	9.50	10.50	1	10	8.6	27.59	14.5
TP4KE11	TP4KE11C	9.90	12.10	1	5	8.9	24.69	16.2
TP4KE11A	TP4KE11CA	10.45	11.55	1	5	9.4	25.64	15.6
TP4KE12	TP4KE12C	10.80	13.20	1	5	9.7	23.12	17.3
TP4KE12A	TP4KE12CA	11.40	12.60	1	5	10.2	23.95	16.7
TP4KE13	TP4KE13C	11.70	14.30	1	1	10.5	21.05	19.0
TP4KE13A	TP4KE13CA	12.35	13.65	1	1	11.1	21.98	18.2
TP4KE15	TP4KE15C	13.50	16.50	1	1	12.1	18.18	22.0
TP4KE15A	TP4KE15CA	14.25	15.75	1	1	12.8	18.87	21.2
TP4KE16	TP4KE16C	14.40	17.60	1	1	12.9	17.02	23.5
TP4KE16A	TP4KE16CA	15.20	16.80	1	1	13.6	17.78	22.5
TP4KE18	TP4KE18C	16.20	19.80	1	1	14.5	15.09	26.5
TP4KE18A	TP4KE18CA	17.10	18.90	1	1	15.3	15.87	25.2
TP4KE20	TP4KE20C	18.00	22.00	1	1	16.2	13.75	29.1
TP4KE20A	TP4KE20CA	19.00	21.00	1	1	17.1	14.44	27.7
TP4KE22	TP4KE22C	19.80	24.20	1	1	17.8	12.54	31.9
TP4KE22A	TP4KE22CA	20.90	23.10	1	1	18.8	13.07	30.6
TP4KE24	TP4KE24C	21.60	26.40	1	1	19.4	11.53	34.7
TP4KE24A	TP4KE24CA	22.80	25.20	1	1	20.5	12.05	33.2
TP4KE27	TP4KE27C	24.30	29.70	1	1	21.8	10.23	39.1
TP4KE27A	TP4KE27CA	25.65	28.35	1	1	23.1	10.67	37.5
TP4KE30	TP4KE30C	27.00	33.00	1	1	24.3	9.20	43.5
TP4KE30A	TP4KE30CA	28.50	31.50	1	1	25.6	9.66	41.4
TP4KE33	TP4KE33C	29.70	36.30	1	1	26.8	8.39	47.7
TP4KE33A	TP4KE33CA	31.35	34.65	1	1	28.2	8.75	45.7
TP4KE36	TP4KE36C	32.40	39.60	1	1	29.1	7.69	52.0
TP4KE36A	TP4KE36CA	34.20	37.80	1	1	30.8	8.02	49.9
TP4KE39	TP4KE39C	35.10	42.90	1	1	31.6	7.09	56.4
TP4KE39A	TP4KE39CA	37.05	40.95	1	1	33.3	7.42	53.9
TP4KE43	TP4KE43C	38.70	47.30	1	1	34.8	6.46	61.9
TP4KE43A	TP4KE43CA	40.85	45.15	1	1	36.8	6.75	59.3
TP4KE47	TP4KE47C	42.30	51.70	1	1	38.1	5.90	67.8
TP4KE47A	TP4KE47CA	44.65	49.35	1	1	40.2	6.17	64.8
TP4KE51	TP4KE51C	45.90	56.10	1	1	41.3	5.44	73.5
TP4KE51A	TP4KE51CA	48.45	53.55	1	1	43.6	5.71	70.1
TP4KE56	TP4KE56C	50.40	61.60	1	1	45.4	4.97	80.5
TP4KE56A	TP4KE56CA	53.20	58.80	1	1	47.8	5.19	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)				
TP4KE62	TP4KE62C	55.80	68.20	1	1	50.2	4.49	89.0
TP4KE62A	TP4KE62CA	58.90	65.10	1	1	53.0	4.71	85.0
TP4KE68	TP4KE68C	61.20	74.80	1	1	55.1	4.08	98.0
TP4KE68A	TP4KE68CA	64.60	71.40	1	1	58.1	4.35	92.0
TP4KE75	TP4KE75C	67.50	82.50	1	1	60.7	3.70	108.0
TP4KE75A	TP4KE75CA	71.25	78.75	1	1	64.1	3.88	103.0
TP4KE82	TP4KE82C	73.80	90.20	1	1	66.4	3.39	118.0
TP4KE82A	TP4KE82CA	77.90	86.10	1	1	70.1	3.54	113.0
TP4KE91	TP4KE91C	81.90	100.10	1	1	73.7	3.05	131.0
TP4KE91A	TP4KE91CA	86.45	95.55	1	1	77.8	3.20	125.0
TP4KE100	TP4KE100C	90.00	110.00	1	1	81.0	2.78	144.0
TP4KE100A	TP4KE100CA	95.00	105.00	1	1	85.5	2.92	137.0
TP4KE110	TP4KE110C	99.00	121.00	1	1	89.2	2.53	158.0
TP4KE110A	TP4KE110CA	104.50	115.50	1	1	94.0	2.63	152.0
TP4KE120	TP4KE120C	108.00	132.00	1	1	97.2	2.31	173.0
TP4KE120A	TP4KE120CA	114.00	126.00	1	1	102.0	2.42	165.0
TP4KE130	TP4KE130C	117.00	143.00	1	1	105.0	2.14	187.0
TP4KE130A	TP4KE130CA	123.50	136.50	1	1	111.0	2.23	179.0
TP4KE150	TP4KE150C	135.00	165.00	1	1	121.0	1.86	215.0
TP4KE150A	TP4KE150CA	142.50	157.50	1	1	128.0	1.93	207.0
TP4KE160	TP4KE160C	144.00	176.00	1	1	130.0	1.74	230.0
TP4KE160A	TP4KE160CA	152.00	168.00	1	1	136.0	1.83	219.0
TP4KE170	TP4KE170C	153.00	187.00	1	1	138.0	1.64	244.0
TP4KE170A	TP4KE170CA	161.50	178.50	1	1	145.0	1.71	234.0
TP4KE180	TP4KE180C	162.00	198.00	1	1	146.0	1.55	258.0
TP4KE180A	TP4KE180CA	171.00	189.00	1	1	154.0	1.63	246.0
TP4KE200	TP4KE200C	180.00	220.00	1	1	162.0	1.39	287.0
TP4KE200A	TP4KE200CA	190.00	210.00	1	1	171.0	1.46	274.0
TP4KE220	TP4KE220C	198.00	242.00	1	1	175.0	1.16	344.0
TP4KE220A	TP4KE220CA	209.00	231.00	1	1	185.0	1.22	328.0
TP4KE250	TP4KE250C	225.00	275.00	1	1	202.0	1.11	360.0
TP4KE250A	TP4KE250CA	237.50	262.50	1	1	214.0	1.16	344.0
TP4KE300	TP4KE300C	270.00	330.00	1	1	243.0	0.93	430.0
TP4KE300A	TP4KE300CA	285.00	315.00	1	1	256.0	0.97	414.0
TP4KE350	TP4KE350C	315.00	385.00	1	1	284.2	0.79	504.0
TP4KE350A	TP4KE350CA	332.50	367.50	1	1	299.3	0.83	482.0
TP4KE380	TP4KE380C	342.00	418.00	1	1	308.6	0.73	547.2
TP4KE380A	TP4KE380CA	361.00	399.00	1	1	324.9	0.76	524.4
TP4KE400	TP4KE400C	360.00	440.00	1	1	324.8	0.69	576.0
TP4KE400A	TP4KE400CA	380.00	420.00	1	1	342.0	0.72	552.0
TP4KE440	TP4KE440C	396.00	484.00	1	1	357.3	0.63	633.6
TP4KE440A	TP4KE440CA	418.00	462.00	1	1	376.2	0.66	607.2
TP4KE500	TP4KE500C	450.00	550.00	1	1	406.0	0.56	720.0
TP4KE500A	TP4KE500CA	475.00	525.00	1	1	427.5	0.58	690.0
TP4KE520	TP4KE520C	468.00	572.00	1	1	422.2	0.53	748.8
TP4KE520A	TP4KE520CA	494.00	546.00	1	1	444.6	0.56	717.6
TP4KE550	TP4KE550C	495.00	605.00	1	1	446.6	0.51	792.0
TP4KE550A	TP4KE550CA	522.50	577.50	1	1	470.3	0.53	759.0
TP4KE600	TP4KE600C	540.00	660.00	1	1	487.2	0.46	864.0
TP4KE600A	TP4KE600CA	570.00	630.00	1	1	513.0	0.48	828.0