Breakdown Voltage: 6.8 to 440 V

Peak Pulse Power: 3000 W

Features

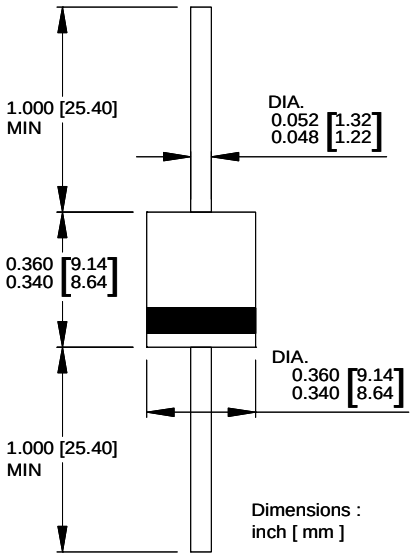
- Glass passivated chip
- 3000 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

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

R-6/P600



Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	3000	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	6.5	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	I_{FSM}	300	A
Maximum instantaneous forward voltage at 100 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)

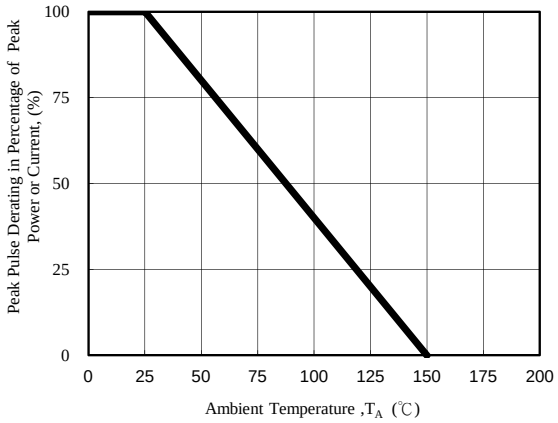


Fig. 1 - Pulse Derating Curve

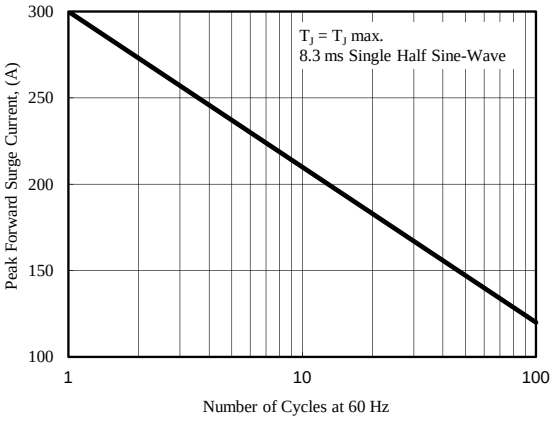


Fig. 2 - Maximum Non-Repetitive Surge Current

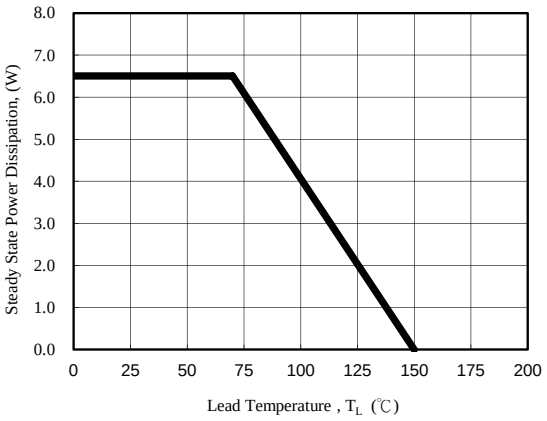


Fig. 3 - Steady State Power Derating Curve

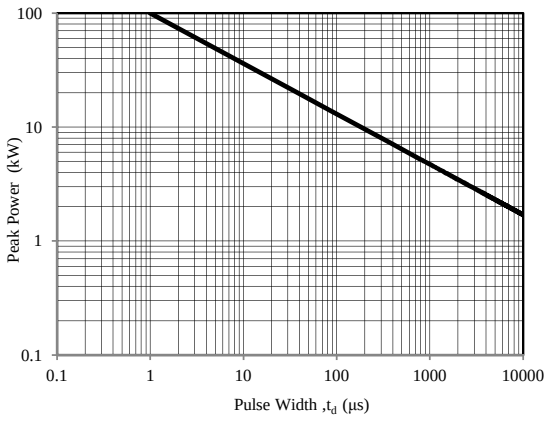


Fig. 4 - Peak Pulse Power Rating Curve

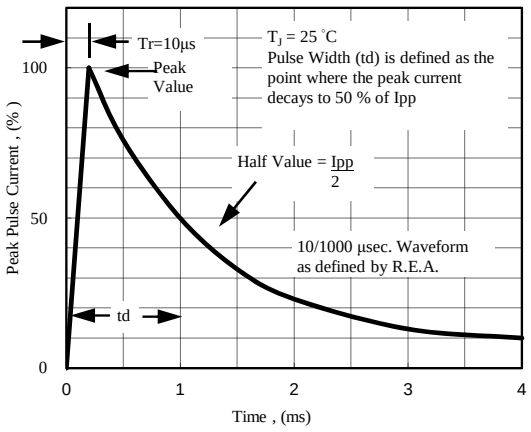


Fig. 5 - Pulse Waveform

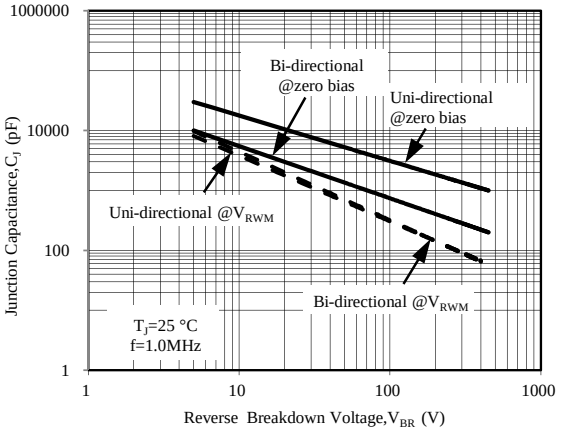


Fig. 6 - Typical Junction Capacitance

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)				
T3KP5.0	T3KP5.0C	6.40	7.30	50	5000	5	312.50	9.6
T3KP5.0A	T3KP5.0CA	6.40	7.00	50	5000	5	326.09	9.2
T3KP6.0	T3KP6.0C	6.67	8.15	50	5000	6	263.16	11.4
T3KP6.0A	T3KP6.0CA	6.67	7.37	50	5000	6	291.26	10.3
T3KP6.5	T3KP6.5C	7.22	8.82	50	2000	7	243.90	12.3
T3KP6.5A	T3KP6.5CA	7.22	7.98	50	2000	7	267.86	11.2
T3KP7.0	T3KP7.0C	7.78	9.51	50	1000	7	225.56	13.3
T3KP7.0A	T3KP7.0CA	7.78	8.60	50	1000	7	250.00	12.0
T3KP7.5	T3KP7.5C	8.33	10.20	5	250	8	209.79	14.3
T3KP7.5A	T3KP7.5CA	8.33	9.21	5	250	8	232.56	12.9
T3KP8.0	T3KP8.0C	8.89	10.90	5	150	8	200.00	15.0
T3KP8.0A	T3KP8.0CA	8.89	9.83	5	150	8	220.59	13.6
T3KP8.5	T3KP8.5C	9.44	11.50	5	50	9	188.68	15.9
T3KP8.5A	T3KP8.5CA	9.44	10.40	5	50	9	208.33	14.4
T3KP9.0	T3KP9.0C	10.0	12.20	5	20	9	177.51	16.9
T3KP9.0A	T3KP9.0CA	10.0	11.10	5	20	9	194.81	15.4
T3KP10	T3KP10C	11.1	13.60	5	15	10	159.57	18.8
T3KP10A	T3KP10CA	11.1	12.30	5	15	10	176.47	17.0
T3KP11	T3KP11C	12.2	14.90	5	2	11	149.25	20.1
T3KP11A	T3KP11CA	12.2	13.50	5	2	11	164.84	18.2
T3KP12	T3KP12C	13.3	16.30	5	2	12	136.36	22.0
T3KP12A	T3KP12CA	13.3	14.70	5	2	12	150.75	19.9
T3KP13	T3KP13C	14.4	17.60	5	2	13	126.05	23.8
T3KP13A	T3KP13CA	14.4	15.90	5	2	13	139.53	21.5
T3KP14	T3KP14C	15.6	19.10	5	2	14	116.28	25.8
T3KP14A	T3KP14CA	15.6	17.20	5	2	14	129.31	23.2
T3KP15	T3KP15C	16.7	20.40	5	2	15	111.52	26.9
T3KP15A	T3KP15CA	16.7	18.50	5	2	15	122.95	24.4
T3KP16	T3KP16C	17.8	21.80	5	2	16	104.17	28.8
T3KP16A	T3KP16CA	17.8	19.70	5	2	16	115.38	26.0
T3KP17	T3KP17C	18.9	23.10	5	2	17	98.36	30.5
T3KP17A	T3KP17CA	18.9	20.90	5	2	17	108.70	27.6
T3KP18	T3KP18C	20.0	24.40	5	2	18	93.17	32.2
T3KP18A	T3KP18CA	20.0	22.10	5	2	18	102.74	29.2
T3KP19	T3KP19C	21.1	25.76	5	2	19	88.21	34.0
T3KP19A	T3KP19CA	21.1	23.30	5	2	19	97.47	30.8
T3KP20	T3KP20C	22.2	27.10	5	2	20	83.80	35.8
T3KP20A	T3KP20CA	22.2	24.50	5	2	20	92.59	32.4
T3KP22	T3KP22C	24.4	29.80	5	2	22	76.14	39.4
T3KP22A	T3KP22CA	24.4	26.90	5	2	22	84.51	35.5
T3KP24	T3KP24C	26.7	32.60	5	2	24	69.77	43.0
T3KP24A	T3KP24CA	26.7	29.50	5	2	24	77.12	38.9
T3KP26	T3KP26C	28.9	35.30	5	2	26	64.38	46.6
T3KP26A	T3KP26CA	28.9	31.90	5	2	26	71.26	42.1
T3KP28	T3KP28C	31.1	38.00	5	2	28	60.00	50.0
T3KP28A	T3KP28CA	31.1	34.40	5	2	28	66.08	45.4
T3KP30	T3KP30C	33.3	40.70	5	2	30	56.07	53.5
T3KP30A	T3KP30CA	33.3	36.80	5	2	30	61.98	48.4
T3KP33	T3KP33C	36.7	44.90	5	2	33	50.85	59.0
T3KP33A	T3KP33CA	36.7	40.60	5	2	33	56.29	53.3
T3KP36	T3KP36C	40.0	48.90	5	2	36	46.66	64.3
T3KP36A	T3KP36CA	40.0	44.20	5	2	36	51.64	58.1

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)				
T3KP40	T3KP40C	44.40	54.30	5	2	40	42.02	71.4
T3KP40A	T3KP40CA	44.40	49.10	5	2	40	46.51	64.5
T3KP43	T3KP43C	47.80	58.40	5	2	43	39.11	76.7
T3KP43A	T3KP43CA	47.80	52.80	5	2	43	43.23	69.4
T3KP45	T3KP45C	50.00	61.10	5	2	45	37.36	80.3
T3KP45A	T3KP45CA	50.00	55.30	5	2	45	41.27	72.7
T3KP48	T3KP48C	53.30	65.10	5	2	48	35.09	85.5
T3KP48A	T3KP48CA	53.30	58.90	5	2	48	38.76	77.4
T3KP51	T3KP51C	56.70	69.30	5	2	51	32.93	91.1
T3KP51A	T3KP51CA	56.70	62.70	5	2	51	36.41	82.4
T3KP54	T3KP54C	60.00	73.30	5	2	54	31.15	96.3
T3KP54A	T3KP54CA	60.00	66.30	5	2	54	34.44	87.1
T3KP58	T3KP58C	64.40	78.70	5	2	58	29.13	103.0
T3KP58A	T3KP58CA	64.40	71.20	5	2	58	32.05	93.6
T3KP60	T3KP60C	66.70	81.50	5	2	60	28.04	107.0
T3KP60A	T3KP60CA	66.70	73.70	5	2	60	30.99	96.8
T3KP64	T3KP64C	71.10	86.90	5	2	64	26.32	114.0
T3KP64A	T3KP64CA	71.10	78.60	5	2	64	29.13	103.0
T3KP70	T3KP70C	77.80	95.10	5	2	70	24.00	125.0
T3KP70A	T3KP70CA	77.80	86.00	5	2	70	26.55	113.0
T3KP75	T3KP75C	83.30	102.0	5	2	75	22.39	134.0
T3KP75A	T3KP75CA	83.30	92.10	5	2	75	24.79	121.0
T3KP78	T3KP78C	86.70	106.0	5	2	78	21.58	139.0
T3KP78A	T3KP78CA	86.70	95.80	5	2	78	23.81	126.0
T3KP80	T3KP80C	88.96	108.8	5	2	80	20.95	143.2
T3KP80A	T3KP80CA	88.80	97.60	5	2	80	23.15	129.6
T3KP85	T3KP85C	94.40	115.0	5	2	85	19.87	151.0
T3KP85A	T3KP85CA	94.40	104.0	5	2	85	21.90	137.0
T3KP90	T3KP90C	100.00	122.0	5	2	90	18.75	160.0
T3KP90A	T3KP90CA	100.00	111.0	5	2	90	20.55	146.0
T3KP100	T3KP100C	111.00	136.0	5	2	100	16.76	179.0
T3KP100A	T3KP100CA	111.00	123.0	5	2	100	18.52	162.0
T3KP110	T3KP110C	122.00	149.0	5	2	110	15.31	196.0
T3KP110A	T3KP110CA	122.00	135.0	5	2	110	16.95	177.0
T3KP120	T3KP120C	133.00	163.0	5	2	120	14.02	214.0
T3KP120A	T3KP120CA	133.00	147.0	5	2	120	15.54	193.0
T3KP130	T3KP130C	144.00	176.0	5	2	130	12.99	231.0
T3KP130A	T3KP130CA	144.00	159.0	5	2	130	14.35	209.0
T3KP140	T3KP140C	155.68	190.4	5	2	140	11.97	250.6
T3KP140A	T3KP140CA	155.00	171.0	5	2	140	13.23	226.8
T3KP150	T3KP150C	167.00	204.0	5	2	150	11.19	268.0
T3KP150A	T3KP150CA	167.00	185.0	5	2	150	12.35	243.0
T3KP160	T3KP160C	178.00	218.0	5	2	160	10.45	287.0
T3KP160A	T3KP160CA	178.00	197.0	5	2	160	11.58	259.0
T3KP170	T3KP170C	189.00	231.0	5	2	170	9.87	304.0
T3KP170A	T3KP170CA	189.00	209.0	5	2	170	10.91	275.0
T3KP180	T3KP180C	200.16	244.8	5	2	180	9.31	322.2
T3KP180A	T3KP180CA	200.00	220.0	5	2	180	10.29	291.6
T3KP190	T3KP190C	211.28	258.4	5	2	190	8.82	340.1
T3KP190A	T3KP190CA	211.00	232.0	5	2	190	9.75	307.8
T3KP191A	T3KP191CA	224.00	247.0	5	2	200	9.26	324.0
T3KP210A	T3KP210CA	233.00	258.0	5	2	210	8.58	349.5
T3KP220A	T3KP220CA	246.00	272.0	5	2	220	8.43	356.0
T3KP250A	T3KP250CA	279.00	309.0	5	2	250	7.41	405.0
T3KP300A	T3KP300CA	335.00	371.0	5	2	300	6.17	486.0
T3KP350A	T3KP350CA	391.00	432.0	5	2	350	5.29	567.0
T3KP400A	T3KP400CA	447.00	494.0	5	2	400	4.63	648.0
T3KP440A	T3KP440CA	492.00	543.0	5	2	440	4.21	713.0