Breakdown Voltage: 6.8 to 440 V

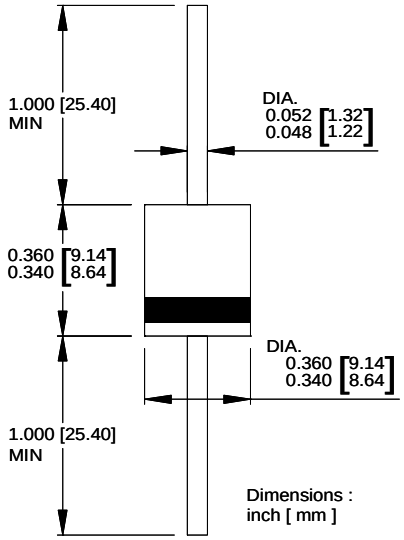
Peak Pulse Power: 5000 W

Features

- Glass passivated chip
- 5000 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

R-6/P600



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}	5000	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	8.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	I_{FSM}	500	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)

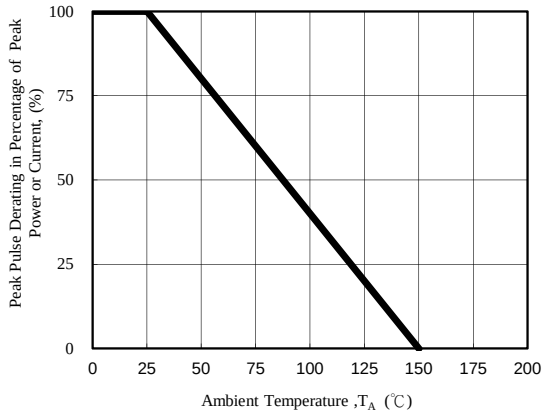


Fig. 1 - Pulse Derating Curve

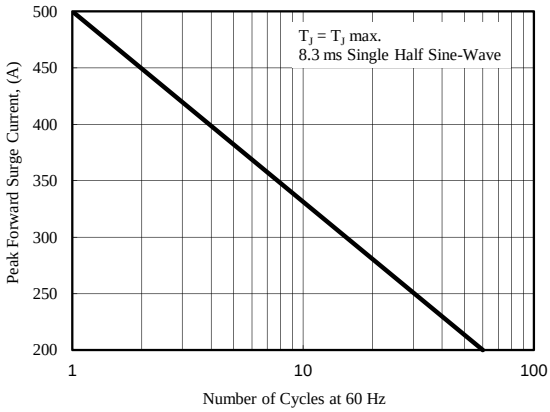


Fig. 2 - Maximum Non-Repetitive Surge Current

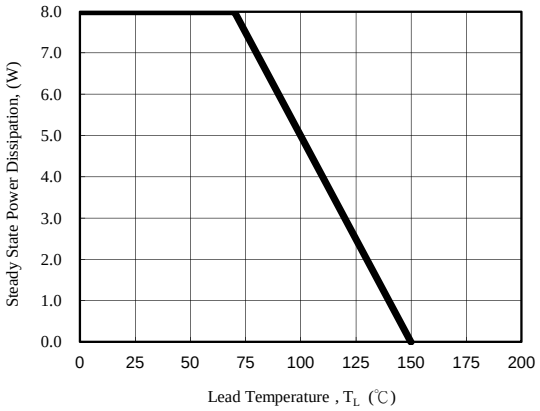


Fig. 3 - Steady State Power Derating Curve

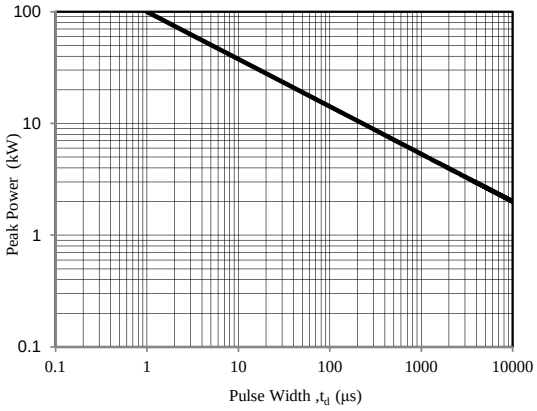


Fig. 4 - Peak Pulse Power Rating Curve

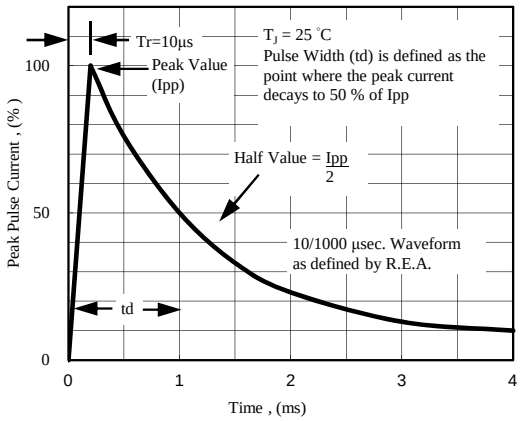


Fig. 5 - Pulse Waveform

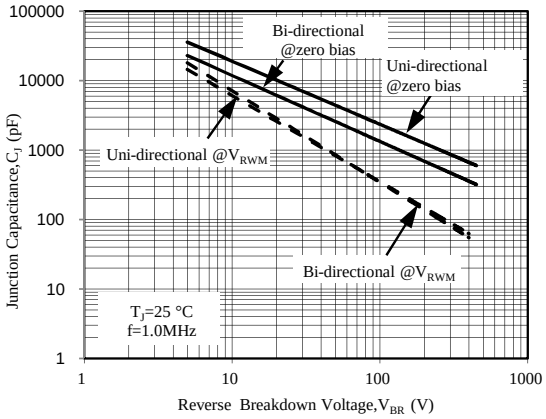


Fig. 6 - Typical Junction Capacitance

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)				
T5KP5.0	T5KP5.0C	6.40	7.30	50	5000	5	520.83	9.6
T5KP5.0A	T5KP5.0CA	6.40	7.00	50	5000	5	543.48	9.2
T5KP6.0	T5KP6.0C	6.67	8.15	50	5000	6	438.60	11.4
T5KP6.0A	T5KP6.0CA	6.67	7.37	50	5000	6	485.44	10.3
T5KP6.5	T5KP6.5C	7.22	8.82	50	2000	7	406.50	12.3
T5KP6.5A	T5KP6.5CA	7.22	7.98	50	2000	7	446.43	11.2
T5KP7.0	T5KP7.0C	7.78	9.51	50	1000	7	375.94	13.3
T5KP7.0A	T5KP7.0CA	7.78	8.60	50	1000	7	416.67	12.0
T5KP7.5	T5KP7.5C	8.33	10.2	5	250	8	349.65	14.3
T5KP7.5A	T5KP7.5CA	8.33	9.21	5	250	8	387.60	12.9
T5KP8.0	T5KP8.0C	8.89	10.9	5	150	8	333.33	15.0
T5KP8.0A	T5KP8.0CA	8.89	9.83	5	150	8	367.65	13.6
T5KP8.5	T5KP8.5C	9.44	11.5	5	50	9	314.47	15.9
T5KP8.5A	T5KP8.5CA	9.44	10.4	5	50	9	347.22	14.4
T5KP9.0	T5KP9.0C	10.00	12.2	5	20	9	295.86	16.9
T5KP9.0A	T5KP9.0CA	10.00	11.1	5	20	9	324.68	15.4
T5KP10	T5KP10C	11.10	13.6	5	15	10	265.96	18.8
T5KP10A	T5KP10CA	11.10	12.3	5	15	10	294.12	17.0
T5KP11	T5KP11C	12.20	14.9	5	2	11	248.76	20.1
T5KP11A	T5KP11CA	12.20	13.5	5	2	11	274.73	18.2
T5KP12	T5KP12C	13.30	16.3	5	2	12	227.27	22.0
T5KP12A	T5KP12CA	13.30	14.7	5	2	12	251.26	19.9
T5KP13	T5KP13C	14.40	17.6	5	2	13	210.08	23.8
T5KP13A	T5KP13CA	14.40	15.9	5	2	13	232.56	21.5
T5KP14	T5KP14C	15.60	19.1	5	2	14	193.80	25.8
T5KP14A	T5KP14CA	15.60	17.2	5	2	14	215.52	23.2
T5KP15	T5KP15C	16.70	20.4	5	2	15	185.87	26.9
T5KP15A	T5KP15CA	16.70	18.5	5	2	15	204.92	24.4
T5KP16	T5KP16C	17.80	21.8	5	2	16	173.61	28.8
T5KP16A	T5KP16CA	17.80	19.7	5	2	16	192.31	26.0
T5KP17	T5KP17C	18.90	23.1	5	2	17	163.93	30.5
T5KP17A	T5KP17CA	18.90	20.9	5	2	17	181.16	27.6
T5KP18	T5KP18C	20.00	24.4	5	2	18	155.28	32.2
T5KP18A	T5KP18CA	20.00	22.1	5	2	18	171.23	29.2
T5KP19	T5KP19C	21.13	25.8	5	2	19	147.02	34.0
T5KP19A	T5KP19CA	21.10	23.3	5	2	19	162.44	30.8
T5KP20	T5KP20C	22.20	27.1	5	2	20	139.66	35.8
T5KP20A	T5KP20CA	22.20	24.5	5	2	20	154.32	32.4
T5KP22	T5KP22C	24.40	29.8	5	2	22	126.90	39.4
T5KP22A	T5KP22CA	24.40	26.9	5	2	22	140.85	35.5
T5KP24	T5KP24C	26.70	32.6	5	2	24	116.28	43.0
T5KP24A	T5KP24CA	26.70	29.5	5	2	24	128.53	38.9
T5KP26	T5KP26C	28.90	35.3	5	2	26	107.30	46.6
T5KP26A	T5KP26CA	28.90	31.9	5	2	26	118.76	42.1
T5KP28	T5KP28C	31.10	38.0	5	2	28	100.00	50.0
T5KP28A	T5KP28CA	31.10	34.4	5	2	28	110.13	45.4
T5KP30	T5KP30C	33.30	40.7	5	2	30	93.46	53.5
T5KP30A	T5KP30CA	33.30	36.8	5	2	30	103.31	48.4
T5KP33	T5KP33C	36.70	44.9	5	2	33	84.75	59.0
T5KP33A	T5KP33CA	36.70	40.6	5	2	33	93.81	53.3
T5KP36	T5KP36C	40.00	48.9	5	2	36	77.76	64.3
T5KP36A	T5KP36CA	40.00	44.2	5	2	36	86.06	58.1
T5KP40	T5KP40C	44.40	54.3	5	2	40	70.03	71.4
T5KP40A	T5KP40CA	44.40	49.1	5	2	40	77.52	64.5

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)				
T5KP43	T5KP43C	47.80	58.4	5	2	43	65.19	76.7
T5KP43A	T5KP43CA	47.80	52.8	5	2	43	72.05	69.4
T5KP45	T5KP45C	50.00	61.1	5	2	45	62.27	80.3
T5KP45A	T5KP45CA	50.00	55.3	5	2	45	68.78	72.7
T5KP48	T5KP48C	53.30	65.1	5	2	48	58.48	85.5
T5KP48A	T5KP48CA	53.30	58.9	5	2	48	64.60	77.4
T5KP51	T5KP51C	56.70	69.3	5	2	51	54.88	91.1
T5KP51A	T5KP51CA	56.70	62.7	5	2	51	60.68	82.4
T5KP54	T5KP54C	60.00	73.3	5	2	54	51.92	96.3
T5KP54A	T5KP54CA	60.00	66.3	5	2	54	57.41	87.1
T5KP58	T5KP58C	64.40	78.7	5	2	58	48.54	103.0
T5KP58A	T5KP58CA	64.40	71.2	5	2	58	53.42	93.6
T5KP60	T5KP60C	66.70	81.5	5	2	60	46.73	107.0
T5KP60A	T5KP60CA	66.70	73.7	5	2	60	51.65	96.8
T5KP64	T5KP64C	71.10	86.9	5	2	64	43.86	114.0
T5KP64A	T5KP64CA	71.10	78.6	5	2	64	48.54	103.0
T5KP70	T5KP70C	77.80	95.1	5	2	70	40.00	125.0
T5KP70A	T5KP70CA	77.80	86.0	5	2	70	44.25	113.0
T5KP75	T5KP75C	83.30	102	5	2	75	37.31	134.0
T5KP75A	T5KP75CA	83.30	92.1	5	2	75	41.32	121.0
T5KP78	T5KP78C	86.70	106.0	5	2	78	35.97	139.0
T5KP78A	T5KP78CA	86.70	95.8	5	2	78	39.68	126.0
T5KP80	T5KP80C	88.96	108.8	5	2	80	34.92	143.2
T5KP80A	T5KP80CA	88.80	97.6	5	2	80	38.58	129.6
T5KP85	T5KP85C	94.40	115.0	5	2	85	33.11	151.0
T5KP85A	T5KP85CA	94.40	104.0	5	2	85	36.50	137.0
T5KP90	T5KP90C	100.00	122.0	5	2	90	31.25	160.0
T5KP90A	T5KP90CA	100.00	111.0	5	2	90	34.25	146.0
T5KP100	T5KP100C	111.00	136.0	5	2	100	27.93	179.0
T5KP100A	T5KP100CA	111.00	123.0	5	2	100	30.86	162.0
T5KP110	T5KP110C	122.00	149.0	5	2	110	25.51	196.0
T5KP110A	T5KP110CA	122.00	135.0	5	2	110	28.25	177.0
T5KP120	T5KP120C	133.00	163.0	5	2	120	23.36	214.0
T5KP120A	T5KP120CA	133.00	147.0	5	2	120	25.91	193.0
T5KP130	T5KP130C	144.00	176.0	5	2	130	21.65	231.0
T5KP130A	T5KP130CA	144.00	159.0	5	2	130	23.92	209.0
T5KP140	T5KP140C	155.68	190.4	5	2	140	19.95	250.6
T5KP140A	T5KP140CA	155.00	171.0	5	2	140	22.05	226.8
T5KP150	T5KP150C	167.00	204.0	5	2	150	18.66	268.0
T5KP150A	T5KP150CA	167.00	185.0	5	2	150	20.58	243.0
T5KP160	T5KP160C	178.00	218.0	5	2	160	17.42	287.0
T5KP160A	T5KP160CA	178.00	197.0	5	2	160	19.31	259.0
T5KP170	T5KP170C	189.00	231.0	5	2	170	16.45	304.0
T5KP170A	T5KP170CA	189.00	209.0	5	2	170	18.18	275.0
T5KP180	T5KP180C	200.16	244.8	5	2	180	15.52	322.2
T5KP180A	T5KP180CA	200.00	220.0	5	2	180	17.15	291.6
T5KP190	T5KP190C	211.28	258.4	5	2	190	14.70	340.1
T5KP190A	T5KP190CA	211.00	232.0	5	2	190	16.24	307.8
T5KP200A	T5KP200CA	224.00	247.0	5	2	200	15.43	324.0
T5KP210A	T5KP210CA	233.00	258.0	5	2	210	14.31	349.5
T5KP220A	T5KP220CA	246.00	272.0	5	2	220	14.04	356.0
T5KP250A	T5KP250CA	279.00	309.0	5	2	250	12.35	405.0
T5KP300A	T5KP300CA	335.00	371.0	5	2	300	10.29	486.0
T5KP350A	T5KP350CA	391.00	432.0	5	2	350	8.82	567.0
T5KP400A	T5KP400CA	447.00	494.0	5	2	400	7.72	648.0
T5KP440A	T5KP440CA	492.00	543.0	5	2	440	7.01	713.0