Breakdown Voltage: 6.8 to 220 V

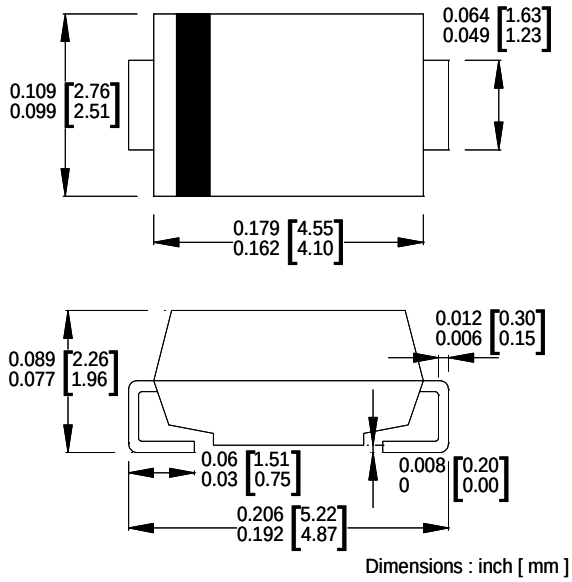
Peak Pulse Power: 600 W

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

Surface Mount

SMA/ DO-214AC



Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- 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	3.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	I_{FSM}	60	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	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

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

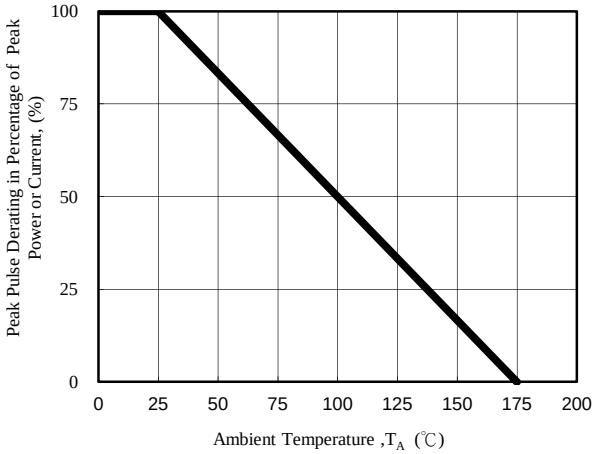


Fig. 1 - Pulse Derating Curve

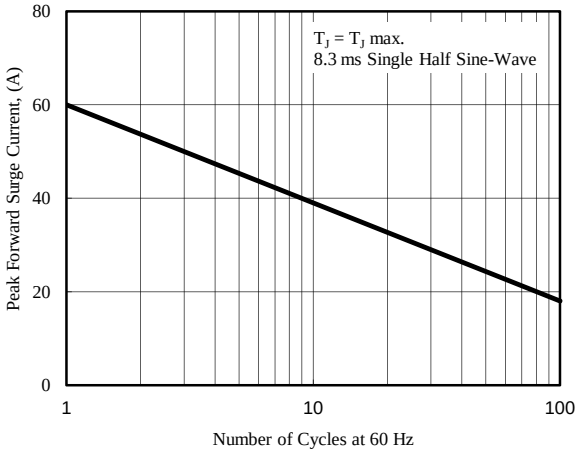


Fig. 2 - Maximum Non-Repetitive Surge Current

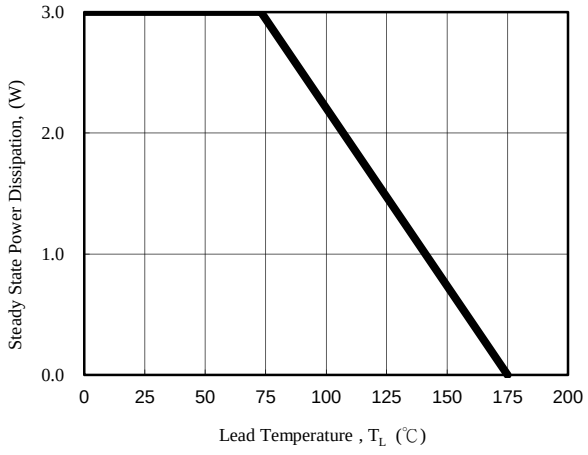


Fig. 3 - Steady State Power Derating Curve

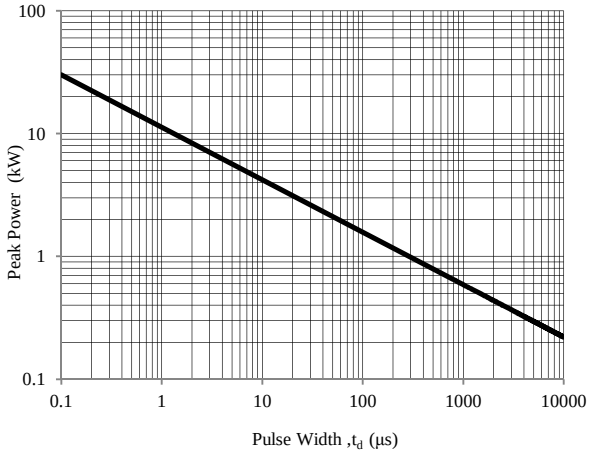


Fig. 4 - Peak Pulse Power Rating Curve

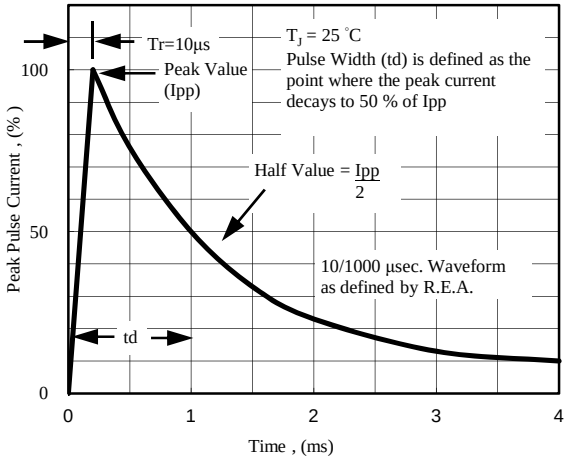


Fig. 5 - Pulse Waveform

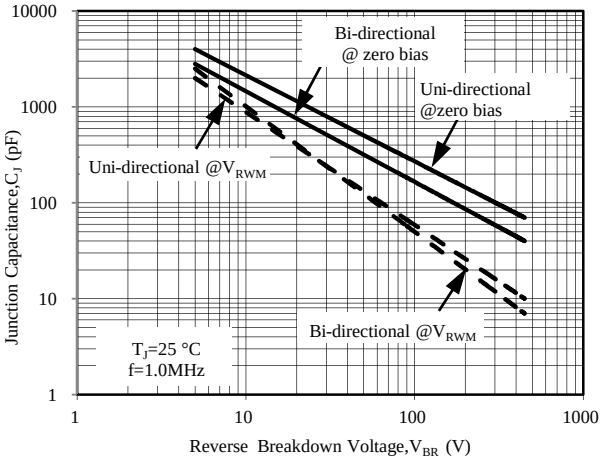


Fig. 6 - Typical Junction Capacitance

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Device Marking Code		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)
		Uni	Bi	Min (V)	Max (V)	I_T (mA)				
TP6SMA6.8A	TP6SMA6.8CA	6P8A	6P8C	6.46	7.14	10	1000	5.8	57.1	10.5
TP6SMA7.5A	TP6SMA7.5CA	7P5A	7P5C	7.13	7.88	10	500	6.4	53.1	11.3
TP6SMA8.2A	TP6SMA8.2CA	8P2A	8P2C	7.79	8.61	10	200	7.0	49.6	12.1
TP6SMA9.1A	TP6SMA9.1CA	9P1A	9P1C	8.65	9.56	1	50	7.8	44.8	13.4
TP6SMA10A	TP6SMA10CA	P10A	P10C	9.50	10.50	1	10	8.6	41.4	14.5
TP6SMA11A	TP6SMA11CA	P11A	P11C	10.45	11.55	1	5	9.4	38.5	15.6
TP6SMA12A	TP6SMA12CA	P12A	P12C	11.40	12.60	1	5	10.2	35.9	16.7
TP6SMA13A	TP6SMA13CA	P13A	P13C	12.35	13.65	1	5	11.1	33.0	18.2
TP6SMA15A	TP6SMA15CA	P15A	P15C	14.25	15.75	1	5	12.8	28.3	21.2
TP6SMA16A	TP6SMA16CA	P16A	P16C	15.20	16.80	1	5	13.6	26.7	22.5
TP6SMA18A	TP6SMA18CA	P18A	P18C	17.10	18.90	1	5	15.3	23.8	25.2
TP6SMA20A	TP6SMA20CA	P20A	P20C	19.00	21.00	1	5	17.1	21.7	27.7
TP6SMA22A	TP6SMA22CA	P22A	P22C	20.90	23.10	1	5	18.8	19.6	30.6
TP6SMA24A	TP6SMA24CA	P24A	P24C	22.80	25.20	1	5	20.5	18.1	33.2
TP6SMA27A	TP6SMA27CA	P27A	P27C	25.65	28.35	1	5	23.1	16.0	37.5
TP6SMA30A	TP6SMA30CA	P30A	P30C	28.50	31.50	1	5	25.6	14.5	41.4
TP6SMA33A	TP6SMA33CA	P33A	P33C	31.35	34.65	1	5	28.2	13.1	45.7
TP6SMA36A	TP6SMA36CA	P36A	P36C	34.20	37.80	1	5	30.8	12.0	49.9
TP6SMA39A	TP6SMA39CA	P39A	P39C	37.05	40.95	1	5	33.3	11.1	53.9
TP6SMA43A	TP6SMA43CA	P43A	P43C	40.85	45.15	1	5	36.8	10.1	59.3
TP6SMA47A	TP6SMA47CA	P47A	P47C	44.65	49.35	1	5	40.2	9.26	64.8
TP6SMA51A	TP6SMA51CA	P51A	P51C	48.45	53.55	1	5	43.6	8.56	70.1
TP6SMA56A	TP6SMA56CA	P56A	P56C	53.20	58.80	1	5	47.8	7.79	77.0
TP6SMA62A	TP6SMA62CA	P62A	P62C	58.90	65.10	1	5	53.0	7.06	85.0
TP6SMA68A	TP6SMA68CA	P68A	P68C	64.60	71.40	1	5	58.1	6.52	92.0
TP6SMA75A	TP6SMA75CA	P75A	P75C	71.25	78.75	1	5	64.1	5.83	103.0
TP6SMA82A	TP6SMA82CA	P82A	P82C	77.90	86.10	1	5	70.1	5.31	113.0
TP6SMA91A	TP6SMA91CA	P91A	P91C	86.45	95.55	1	5	77.8	4.80	125.0
TP6SMA100A	TP6SMA100CA	P100A	P100C	95.00	105.00	1	5	85.5	4.38	137.0
TP6SMA110A	TP6SMA110CA	P110A	P110C	104.50	115.50	1	5	94.0	3.95	152.0
TP6SMA120A	TP6SMA120CA	P120A	P120C	114.00	126.00	1	5	102.0	3.64	165.0
TP6SMA130A	TP6SMA130CA	P130A	P130C	123.50	136.50	1	5	111.0	3.35	179.0
TP6SMA150A	TP6SMA150CA	P150A	P150C	142.50	157.50	1	5	128.0	2.90	207.0
TP6SMA160A	TP6SMA160CA	P160A	P160C	152.00	168.00	1	5	136.0	2.74	219.0
TP6SMA170A	TP6SMA170CA	P170A	P170C	161.50	178.50	1	5	145.0	2.56	234.0
TP6SMA180A	TP6SMA180CA	P180A	P180C	171.00	189.00	1	5	154.0	2.44	246.0
TP6SMA200A	TP6SMA200CA	P200A	P200C	190.00	210.00	1	5	171.0	2.19	274.0
TP6SMA220A	TP6SMA220CA	P220A	P220C	209.00	231.00	1	5	185.0	1.83	328.0

Note:

1. The available parts are "A" type only,the parts without A(V_{BR} is ±10%) is not available
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