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

Features

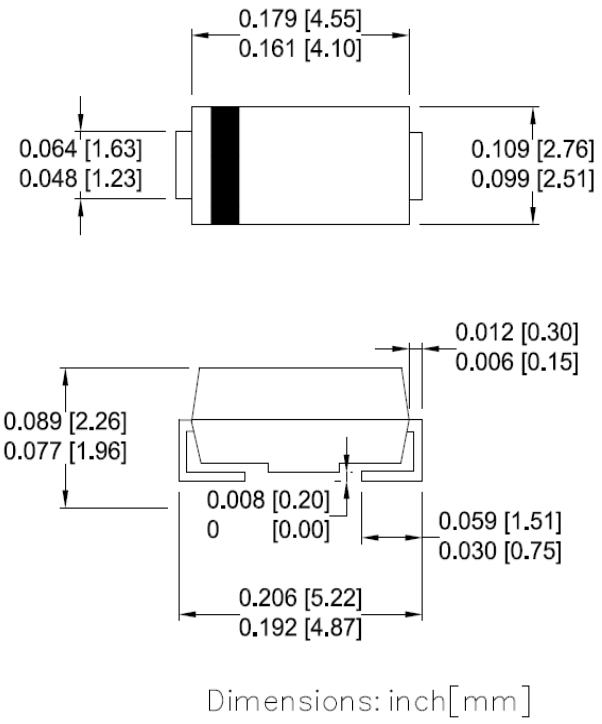
- Glass passivated chip
- 400 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Surface Mount

SMA/ DO-214AC



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)

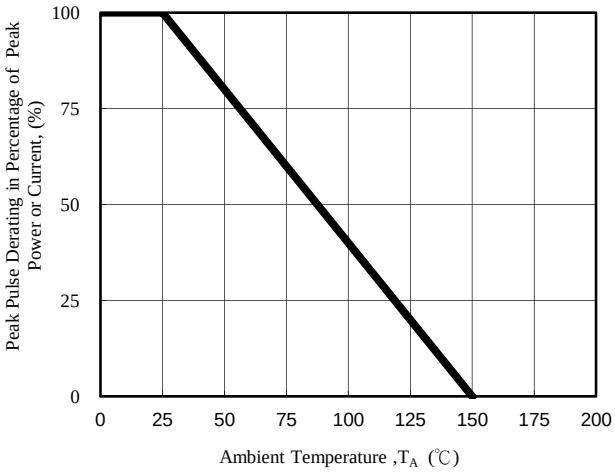


Fig. 1 - Pulse Derating Curve

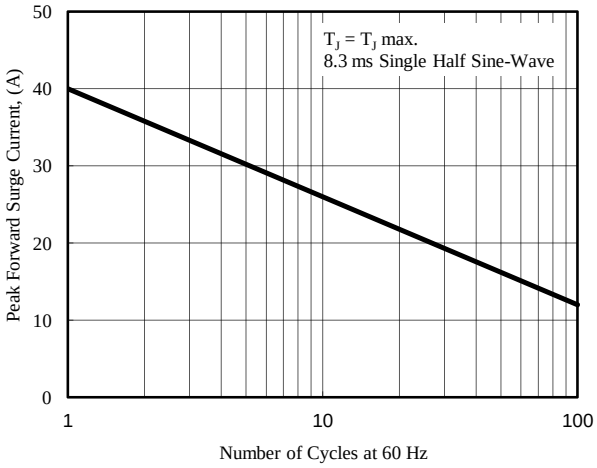


Fig. 2 - Maximum Non-Repetitive Surge Current

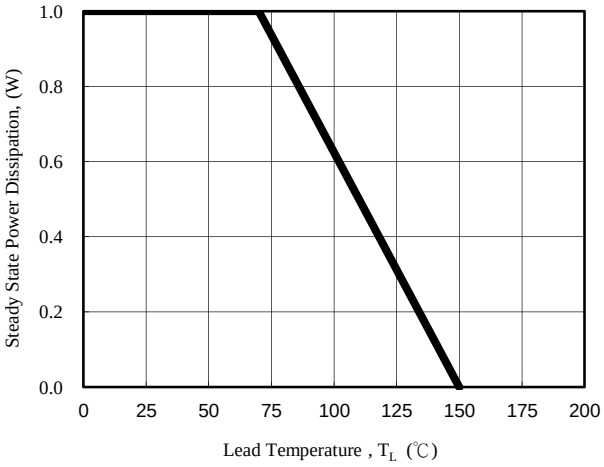


Fig. 3 - Steady State Power Derating Curve

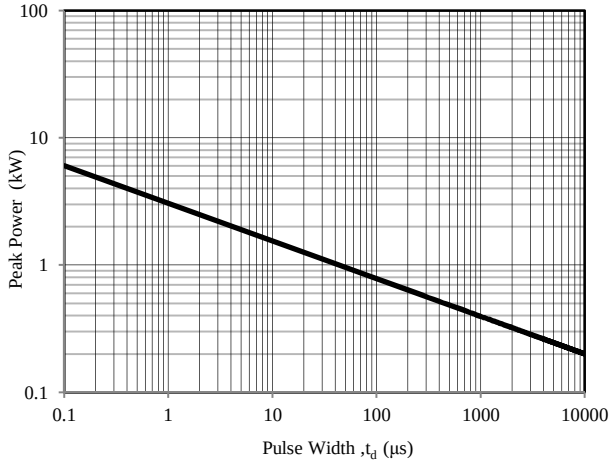


Fig. 4 - Peak Pulse Power Rating Curve

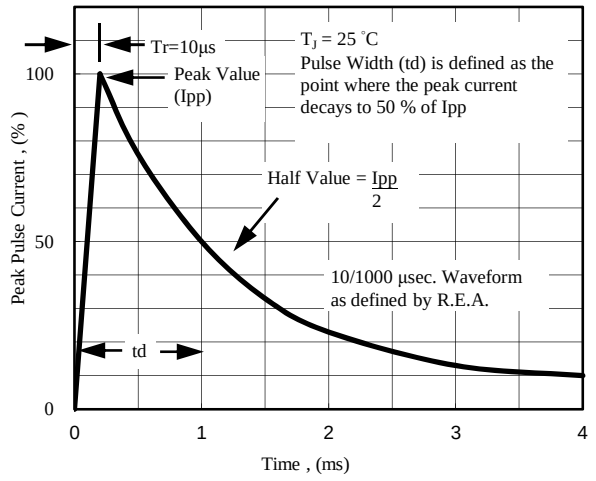


Fig. 5 - Pulse Waveform

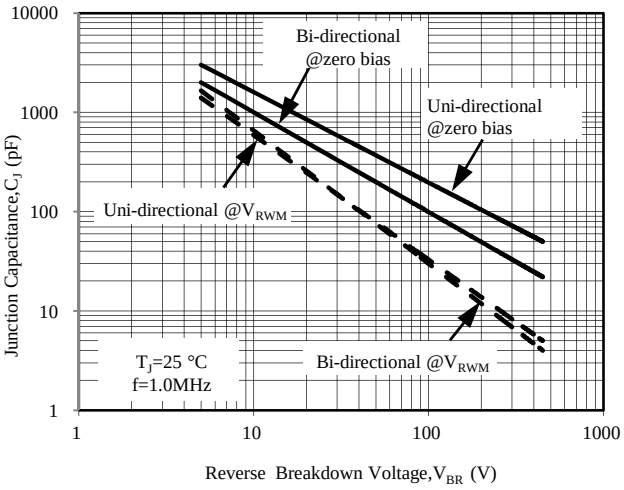


Fig. 6 - Typical Junction Capacitance

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	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)				
TP4SMA6.8A	TP4SMA6.8CA	6V8A	6V8C	6.46	7.14	10	1000	5.8	38.10	10.5
TP4SMA7.5A	TP4SMA7.5CA	7V5A	7V5C	7.13	7.88	10	500	6.4	35.40	11.3
TP4SMA8.2A	TP4SMA8.2CA	8V2A	8V2C	7.79	8.61	10	200	7.0	33.06	12.1
TP4SMA9.1A	TP4SMA9.1CA	9V1A	9V1C	8.65	9.56	1	50	7.8	29.85	13.4
TP4SMA10A	TP4SMA10CA	10A	10C	9.50	10.50	1	10	8.6	27.59	14.5
TP4SMA11A	TP4SMA11CA	11A	11C	10.45	11.55	1	5	9.4	25.64	15.6
TP4SMA12A	TP4SMA12CA	12A	12C	11.40	12.60	1	5	10.2	23.95	16.7
TP4SMA13A	TP4SMA13CA	13A	13C	12.35	13.65	1	1	11.1	21.98	18.2
TP4SMA15A	TP4SMA15CA	15A	15C	14.25	15.75	1	1	12.8	18.87	21.2
TP4SMA16A	TP4SMA16CA	16A	16C	15.20	16.80	1	1	13.6	17.78	22.5
TP4SMA18A	TP4SMA18CA	18A	18C	17.10	18.90	1	1	15.3	15.87	25.2
TP4SMA20A	TP4SMA20CA	20A	20C	19.00	21.00	1	1	17.1	14.44	27.7
TP4SMA22A	TP4SMA22CA	22A	22C	20.90	23.10	1	1	18.8	13.07	30.6
TP4SMA24A	TP4SMA24CA	24A	24C	22.80	25.20	1	1	20.5	12.05	33.2
TP4SMA27A	TP4SMA27CA	27A	27C	25.65	28.35	1	1	23.1	10.67	37.5
TP4SMA30A	TP4SMA30CA	30A	30C	28.50	31.50	1	1	25.6	9.66	41.4
TP4SMA33A	TP4SMA33CA	33A	33C	31.35	34.65	1	1	28.2	8.75	45.7
TP4SMA36A	TP4SMA36CA	36A	36C	34.20	37.80	1	1	30.8	8.02	49.9
TP4SMA39A	TP4SMA39CA	39A	39C	37.05	40.95	1	1	33.3	7.42	53.9
TP4SMA43A	TP4SMA43CA	43A	43C	40.85	45.15	1	1	36.8	6.75	59.3
TP4SMA47A	TP4SMA47CA	47A	47C	44.65	49.35	1	1	40.2	6.17	64.8
TP4SMA51A	TP4SMA51CA	51A	51C	48.45	53.55	1	1	43.6	5.71	70.1
TP4SMA56A	TP4SMA56CA	56A	56C	53.20	58.80	1	1	47.8	5.19	77.0
TP4SMA62A	TP4SMA62CA	62A	62C	58.90	65.10	1	1	53.0	4.71	85.0
TP4SMA68A	TP4SMA62CA	68A	68C	64.60	71.40	1	1	58.1	4.35	92.0
TP4SMA75A	TP4SMA75CA	75A	75C	71.25	78.75	1	1	64.1	3.88	103.0
TP4SMA82A	TP4SMA82CA	82A	82C	77.90	86.10	1	1	70.1	3.54	113.0
TP4SMA91A	TP4SMA91CA	91A	91C	86.45	95.55	1	1	77.8	3.20	125.0
TP4SMA100A	TP4SMA100CA	100A	100C	95.00	105.00	1	1	85.5	2.92	137.0
TP4SMA110A	TP4SMA110CA	110A	110C	104.50	115.50	1	1	94.0	2.63	152.0
TP4SMA120A	TP4SMA120CA	120A	120C	114.00	126.00	1	1	102.0	2.42	165.0
TP4SMA130A	TP4SMA130CA	130A	130C	123.50	136.50	1	1	111.0	2.23	179.0
TP4SMA150A	TP4SMA150CA	150A	150C	142.50	157.50	1	1	128.0	1.93	207.0
TP4SMA160A	TP4SMA160CA	160A	160C	152.00	168.00	1	1	136.0	1.83	219.0
TP4SMA170A	TP4SMA170CA	170A	170C	161.50	178.50	1	1	145.0	1.71	234.0
TP4SMA180A	TP4SMA180CA	180A	180C	171.00	189.00	1	1	154.0	1.63	246.0
TP4SMA200A	TP4SMA200CA	200A	200C	190.00	210.00	1	1	171.0	1.46	274.0
TP4SMA220A	TP4SMA220CA	220A	220C	209.00	231.00	1	1	185.0	1.22	328.0
TP4SMA250A	TP4SMA250CA	250A	250C	237.50	262.50	1	1	214.0	1.16	344.0
TP4SMA300A	TP4SMA300CA	300A	300C	285.00	315.00	1	1	256.0	0.97	414.0
TP4SMA350A	TP4SMA350CA	350A	350C	332.50	367.50	1	1	299.3	0.83	482.0
TP4SMA380A	TP4SMA380CA	380A	380C	361.00	399.00	1	1	324.9	0.76	524.4
TP4SMA400A	TP4SMA400CA	400A	400C	380.00	420.00	1	1	342.0	0.72	552.0
TP4SMA440A	TP4SMA440CA	440A	440C	418.00	462.00	1	1	376.2	0.66	607.2
TP4SMA500A	TP4SMA500CA	500A	500C	475.00	525.00	1	1	427.5	0.58	690.0
TP4SMA520A	TP4SMA520CA	520A	520C	494.00	546.00	1	1	444.6	0.56	717.6
TP4SMA550A	TP4SMA550CA	550A	550C	522.50	577.50	1	1	470.3	0.53	759.0
TP4SMA600A	TP4SMA600CA	600A	600C	570.00	630.00	1	1	513.0	0.48	828.0

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