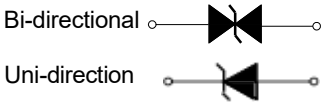
SMA





Features

- P_{PP} 400W
- V_{RWM} 5.8V- 513V
- Glass passivated chip

Applications

- Clamping Voltage

Limiting values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak pulse power dissipation	P_{PPM}	W	with a 10/1000us waveform	400
Peak pulse current (1)	I_{PPM}	A	with a 10/1000us waveform	See Next Table
Power dissipation	P_D	W	On infinite heat sink at T_L=75℃	1.0
Peak forward surge current(2)	I_{FSM}	A	8.3 ms single half sine-wave unidirectional only	40
Operatingjunction and storage temperature range	T_J,T_{STG}	℃		-55 to +150

Electrical Characteristics（Ta=25℃ Unless otherwise specified）

Item	Symbol	Unit	Conditions	Max
Maximum instantaneous forward Voltage (3)	V_F	V	at 25A for unidirectional only	3.5/5.0
Thermal resistance	$R_{\theta JL}$	℃/W	junction to lead	30
	$R_{\theta JA}$	℃/W	junction to ambient, L_{Lead} = 10 mm	120

Notes:

(1) Non-repetitive current pulse, per Fig. 3 and derated above T_A= 25℃per Fig.2.

(2) Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal

(3) VF<3.5V for devices of VBR<200V and VF<5.0V for devices of VBR>201V

Electrical Characteristics (T_A=25℃unless otherwise noted)

Number				Working Peak ReverseVoltage V_{RWM} (V)	BreakdownVoltage V_{BR}@I_T		Test Current I_T (mA)	Clamping Voltage Vc @ I_{PP} (V)	ReverseSurge Current IPP (A)	Reverse Leakage I_{R}@ V_{WM} (μA)
Uni		Bi			Min(V)	Max (V)				
P4SMA6.8A	6V8A	P4SMA6.8CA	6V8C	5.8	6.46	7.14	10	10.5	38.10	1000
P4SMA7.5A	7V5A	P4SMA7.5CA	7V5C	6.4	7.13	7.88	10	11.3	35.40	500
P4SMA8.2A	8V2A	P4SMA8.2CA	8V2C	7.0	7.79	8.61	10	12.1	33.06	200
P4SMA9.1A	9V1A	P4SMA9.1CA	9V1C	7.8	8.65	9 .56	1	13.4	29.85	50
P4SMA10A	10A	P4SMA10CA	10C	8.6	9.50	10.50	1	14.5	27.59	10
P4SMA11A	11A	P4SMA11CA	11C	9.4	10.45	11.55	1	15.6	25.64	5
P4SMA12A	12A	P4SMA12CA	12C	10.2	11.40	12.60	1	16.7	23.95	5
P4SMA13A	13A	P4SMA13CA	13C	11.1	12.35	13.65	1	182	21.98	1
P4SMA15A	15A	P4SMA15CA	15C	12.8	14.25	15.75	1	21.2	18.87	1
P4SMA16A	16A	P4SMA16CA	16C	13.6	15.20	16.80	1	22.5	17.78	1
P4SMA18A	18A	P4SMA18CA	18C	15.3	17.10	18.90	1	25.2	15.87	1
P4SMA20A	20A	P4SMA20CA	20C	17.1	19.00	21.00	1	27.7	14.44	1
P4SMA22A	22A	P4SMA22CA	22C	18.8	20.90	23.10	1	30.6	13.07	1
P4SMA24A	24A	P4SMA24CA	24C	20.5	22.80	25.20	1	33.2	12.05	1
P4SMA27A	27A	P4SMA27CA	27C	23.1	25.65	28.35	1	37.5	10.67	1
P4SMA30A	30A	P4SMA30CA	30C	25.6	28.50	31.50	1	41.4	9.66	1
P4SMA33A	33A	P4SMA33CA	33C	28.2	31.35	34.65	1	45.7	8.75	1
P4SMA36A	36A	P4SMA36CA	36C	30.8	34 20	37.80	1	49.9	8.02	1
P4SMA39A	39A	P4SMA39CA	39C	33.3	37.05	40.95	1	53.9	7.42	1
P4SMA43A	43A	P4SMA43CA	43C	36.8	40.85	45.15	1	59.3	6.75	1
P4SMA47A	47A	P4SMA47CA	47C	40.2	44.65	49.35	1	64.8	6.17	1
P4SMA51A	51A	P4SMA51CA	51C	43.6	48.45	53.55	1	70.1	5.71	1
P4SMA56A	56A	P4SMA56CA	56C	47.8	53 20	58.80	1	77.0	5.19	1
P4SMA62A	62A	P4SMA62CA	62C	53.0	58.90	65.10	1	85.0	4.71	1
P4SMA68A	68A	P4SMA68CA	68C	58.1	64.60	71.40	1	92.0	4.35	1
P4SMA75A	75A	P4SMA75CA	75C	64.1	71.25	78.75	1	103.0	3.88	1
P4SMA82A	82A	P4SMA82CA	82C	70.1	77.90	86.10	1	113.0	3.54	1
P4SMA91A	91A	P4SMA91CA	91C	77.8	86.45	95.55	1	125.0	3.20	1
P4SMA100A	100A	P4SMA100CA	100C	85.5	95.00	105.00	1	137.0	2.92	1
P4SMA110A	110A	P4SMA110CA	110C	94.0	104.50	115.50	1	152.0	2.63	1
P4SMA120A	120A	P4SMA120CA	120C	102.0	114.00	126.00	1	165.0	2.42	1
P4SMA130A	130A	P4SMA130CA	130C	111.0	123.50	136.50	1	179.0	2.23	1
P4SMA150A	150A	P4SMA150CA	150C	128.0	142.50	157.50	1	207.0	1.93	1
P4SMA160A	160A	P4SMA160CA	160C	136.0	152.00	168.00	1	219.0	1.83	1
P4SMA170A	170A	P4SMA170CA	170C	145.0	161.50	178.50	1	234.0	1.71	1

Electrical Characteristics (T_A=25℃unless otherwise noted)

Number				Working Peak ReverseVoltage V_{RWM} (V)	BreakdownVoltage V_{BR}@I_T		Test Current I_T (mA)	Clamping Voltage Vc @ I_{PP} (V)	ReverseSurge Current IPP (A)	Reverse Leakage I_{R}@ V_{WM} (μA)
Uni		Bi			Min(V)	Max (V)				
P4SMA180A	180A	P4SMA180CA	180C	154.0	171.00	189.00	1	246.0	1.63	1
P4SMA200A	200A	P4SMA200CA	200C	171.0	190.00	210.00	1	274.0	1.46	1
P4SMA220A	220A	P4SMA220CA	220C	185.0	209.00	231.00	1	328.0	122	1
P4SMA250A	250A	P4SMA250CA	250C	214.0	237.50	262.50	1	344.0	1.16	1
P4SMA300A	300A	P4SMA300CA	300C	256.0	285.00	315.00	1	414.0	0.97	1
P4SMA350A	350A	P4SMA350CA	350C	299.3	332.50	367.50	1	482.0	0.83	1
P4SMA400A	400A	P4SMA400CA	400C	342.0	380.00	420.00	1	552.0	0.72	1
P4SMA440A	440A	P4SMA440CA	440C	376.2	418.00	462.00	1	607.2	0.66	1
P4SMA480A	480A	P4SMA480CA	480C	408	456.00	504	1	658	0.65	1
P4SMA510A	510A	P4SMA510CA	510C	434	485.00	535	1	698	0.63	1
P4SMA530A	530A	P4SMA530CA	530C	451	503.50	556.5	1	725	0.60	1
P4SMA540A	540A	P4SMA540CA	540C	460	513.00	567	1	740	0.55	1
P4SMA550A	550A	P4SMA550CA	550C	470.3	522.50	577.50	1	759.0	0.53	1
P4SMA600A	560A	P4SMA600CA	560C	513.0	570.00	630.00	1	828.0	0.48	1

Typical Characteristics

FIG1:Peak Pulse Power Rating Curve

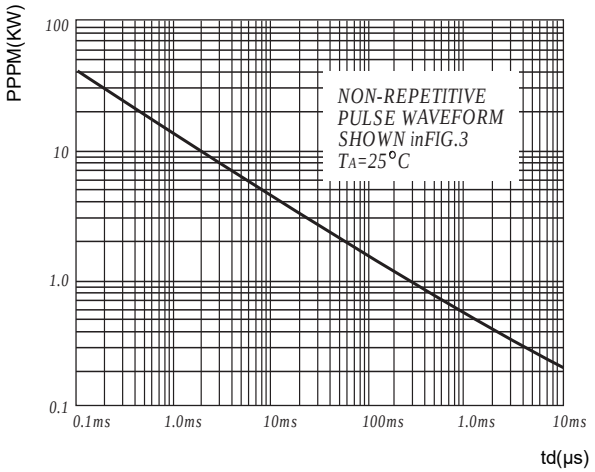


FIG2: Pulse Power or Current vs. Initial Junction Temperature

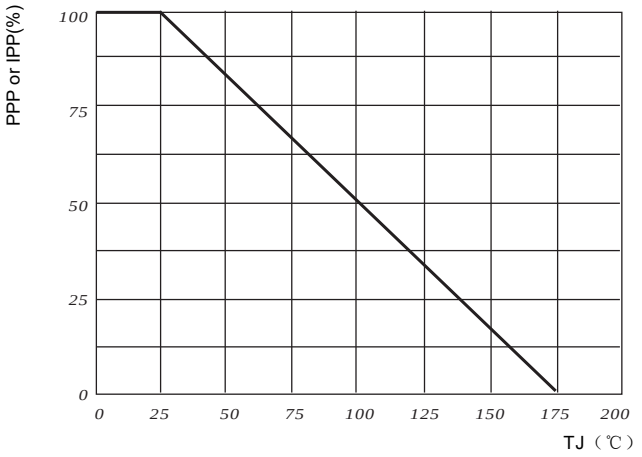


FIG3: Pulse Waveform

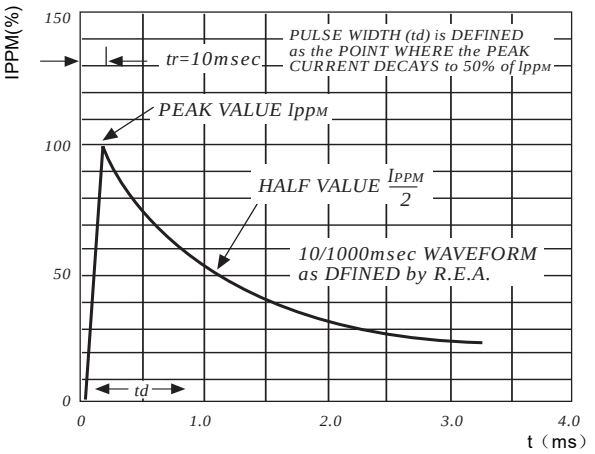


FIG4:Typical Transient Thermal Impedance

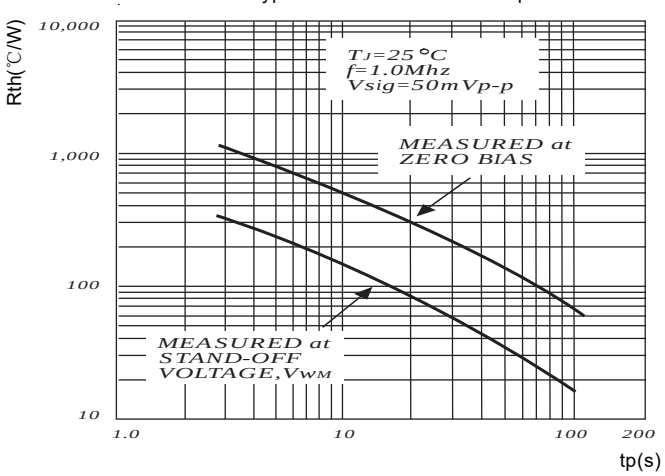


FIG5: Maximum Non-Repetitive Surge Current

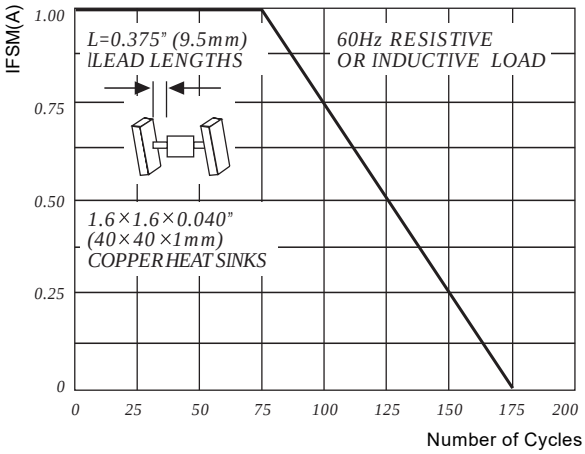
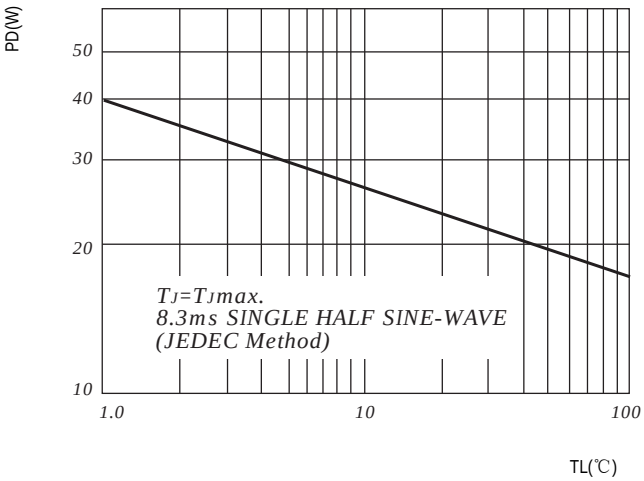
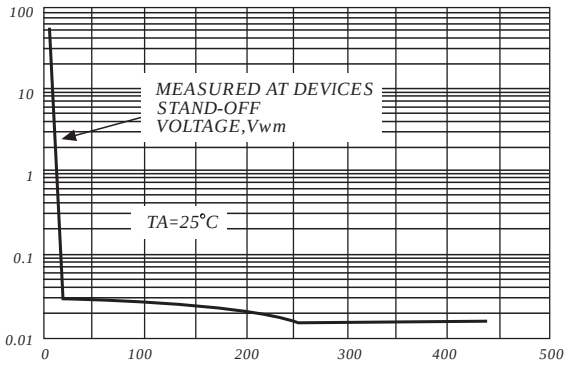
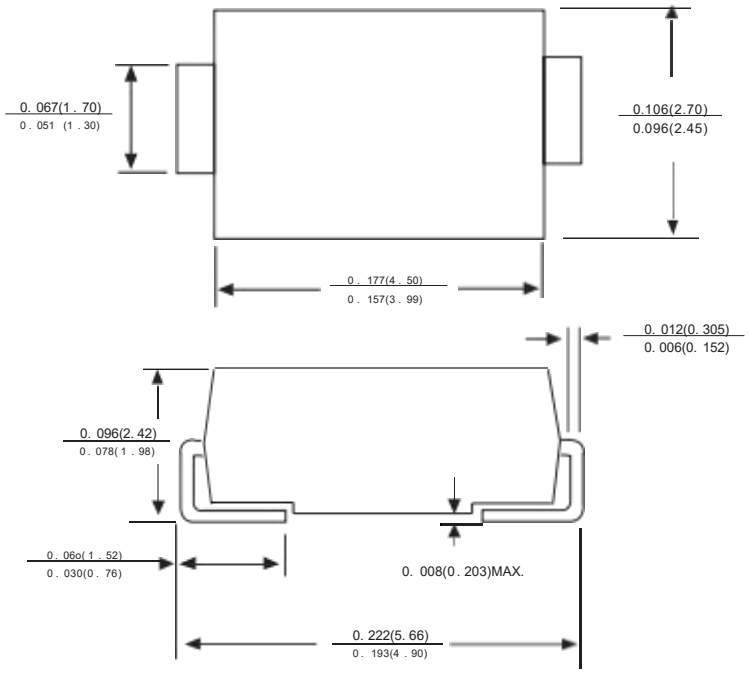


FIG6:Steady State Power Dissipation



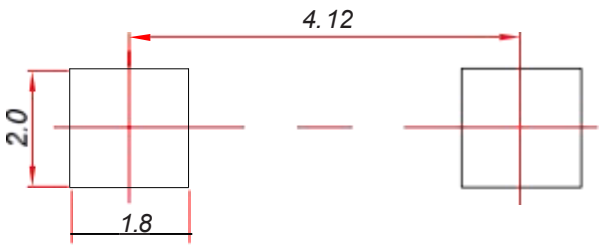


SMA Package outline Dimensions



Dimensions in inches and (milimetErs)

SMA Suggested pad Layout



Note:

1.controlling dimension:in millimeters.

2. General tolerance:±0.05mm.

3.The pad layout is for reference purposes only.