

Features

- P_{PP} 5000W
- V_{RWM} 11V- 440V
- Glass passivated chip



Limiting values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak pulse power dissipation	P_{PPM}	W	with a 10/1000us waveform	5000
Peak pulse current (1)	I_{PPM}	A	with a 10/1000us waveform	See Next Table
Peak forward surge current(2)	I_{FSM}	A	8.3 ms single half sine-wave unidirectional only	300
Power dissipation	P_D	W	On infinite heat sink at $T_L=50^{\circ}\text{C}$	6.5
Peak Forward Voltage	V_F	V	Maximum instantaneous forward voltage at 100 A for unidirectional only	3.0/5.0
Thermal resistance	$R_{\theta JL}$	$^{\circ}\text{C/W}$	junction to lead	15
	$R_{\theta JA}$	$^{\circ}\text{C/W}$	junction to ambient	75
Operating junction and storage temperature range	T_J, T_{STG}	$^{\circ}\text{C}$		-55 to +150

Electrical Characteristics (T_A=25°C unless otherwise noted)

Number				Breakdown Voltage V _{BR} @ I _T			Reverse Leakage I _R @ V _{RWM} (μ A)	Working Peak Reverse Voltage V _{RWM} (V)	Reverse Surge Current I _{PP} (A)	Clamping Voltage V _c @ I _{PP} (V)
UNI		BI		Min (V)	Max (V)	I _T (mA)				
5.0SMDJ12A	5PEP	5.0SMDJ12CA	5BEP	13.30	14.70	10	800	12.0	251.3	19.9
5.0SMDJ13A	5PEQ	5.0SMDJ13CA	5BEQ	14.40	15.90	10	500	13.0	232.6	21.5
5.0SMDJ14A	5PER	5.0SMDJ14CA	5BER	15.60	17.20	10	200	14.0	215.5	23.2
5.0SMDJ15A	5PES	5.0SMDJ15CA	5BES	16.70	18.50	1	100	15.0	204.9	24.4
5.0SMDJ16A	5PET	5.0SMDJ16CA	5BET	17.80	19.70	1	50	16.0	192.3	26.0
5.0SMDJ17A	5PEU	5.0SMDJ17CA	5BEU	18.90	20.90	1	20	17.0	181.2	27.6
5.0SMDJ18A	5PEV	5.0SMDJ18CA	5BEV	20.00	22.10	1	10	18.0	171.2	29.2
5.0SMDJ20A	5PEW	5.0SMDJ20CA	5BEW	22.20	24.50	1	5	20.0	154.3	32.4
5.0SMDJ22A	5PEX	5.0SMDJ22CA	5BEX	24.40	26.90	1	5	22.0	140.8	35.5
5.0SMDJ24A	5PEZ	5.0SMDJ24CA	5BEZ	26.70	29.50	1	5	24.0	128.5	38.9
5.0SMDJ26A	5PFE	5.0SMDJ26CA	5BFE	28.90	31.90	1	5	26.0	118.8	42.1
5.0SMDJ28A	5PFG	5.0SMDJ28CA	5BFG	31.10	34.40	1	5	28.0	110.1	45.4
5.0SMDJ30A	5PFK	5.0SMDJ30CA	5BFK	33.30	36.80	1	5	30.0	103.3	48.4
5.0SMDJ33A	5PFM	5.0SMDJ33CA	5BFM	36.70	40.60	1	5	33.0	93.8	53.3
5.0SMDJ36A	5PFP	5.0SMDJ36CA	5BFP	40.00	44.20	1	5	36.0	86.1	58.1
5.0SMDJ40A	5PFR	5.0SMDJ40CA	5BFR	44.40	49.10	1	5	40.0	77.5	64.5
5.0SMDJ43A	5PFT	5.0SMDJ43CA	5BFT	47.80	52.80	1	5	43.0	72.0	69.4
5.0SMDJ45A	5PFV	5.0SMDJ45CA	5BFV	50.00	55.30	1	5	45.0	68.8	72.7
5.0SMDJ48A	5PFX	5.0SMDJ48CA	5BFX	53.30	58.90	1	5	48.0	64.6	77.4
5.0SMDJ51A	5PFZ	5.0SMDJ51CA	5BFZ	56.70	62.70	1	5	51.0	60.7	82.4
5.0SMDJ54A	5PGE	5.0SMDJ54CA	5BGE	60.00	66.30	1	5	54.0	57.4	87.1
5.0SMDJ58A	5PGG	5.0SMDJ58CA	5BGG	64.40	71.20	1	5	58.0	53.4	93.6
5.0SMDJ60A	5PGK	5.0SMDJ60CA	5BGK	66.70	73.70	1	5	60.0	51.7	96.8
5.0SMDJ64A	5PGM	5.0SMDJ64CA	5BGM	71.10	78.60	1	5	64.0	48.5	103.0

Number				Breakdown Voltage $V_{BR} @ I_T$			Reverse Leakage $I_R @ V_{RWM}$ (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Reverse Surge Current I_{PP} (A)	Clamping Voltage $V_C @ I_{PP}$ (V)
UNI		BI		Min (V)	Max (V)	I_T (mA)				
5.0SMDJ70A	5PGP	5.0SMDJ70CA	5BGP	77.80	86.00	1	5	70.0	44.2	113.0
5.0SMDJ75A	5PGR	5.0SMDJ75CA	5BGR	83.30	92.10	1	5	75.0	41.3	121.0
5.0SMDJ78A	5PGT	5.0SMDJ78CA	5BGT	86.70	95.80	1	5	78.0	39.7	126.0
5.0SMDJ80A	5PGU	5.0SMDJ80CA	5BGU	88.80	97.60	1	5	80.0	38.6	129.6
5.0SMDJ85A	5PGV	5.0SMDJ85CA	5BGV	94.40	104.0	1	5	85.0	36.5	137.0
5.0SMDJ90A	5PGX	5.0SMDJ90CA	5BGX	100.0	111.0	1	5	90.0	34.2	146.0
5.0SMDJ100A	5PGZ	5.0SMDJ100CA	5BGZ	111.0	123.0	1	5	100.0	30.9	162.0
5.0SMDJ110A	5PHE	5.0SMDJ110CA	5BHE	122.0	135.0	1	5	110.0	28.2	177.0
5.0SMDJ120A	5PHG	5.0SMDJ120CA	5BHG	133.0	147.0	1	5	120.0	25.9	193.0
5.0SMDJ130A	5PHK	5.0SMDJ130CA	5BHK	144.0	159.0	1	5	130.0	23.9	209.0
5.0SMDJ140A	5PHL	5.0SMDJ140CA	5BHL	155.0	171.0	1	5	140.0	22.0	226.8
5.0SMDJ150A	5PHM	5.0SMDJ150CA	5BHM	167.0	185.0	1	5	150.0	20.6	243.0
5.0SMDJ160A	5PHP	5.0SMDJ160CA	5BHP	178.0	197.0	1	5	160.0	19.3	259.0
5.0SMDJ170A	5PHR	5.0SMDJ170CA	5BHR	189.0	209.0	1	5	170.0	18.2	275.0
5.0SMDJ180A	5PHT	5.0SMDJ180CA	5BHT	200.0	220.0	1	5	180.0	17.1	291.6
5.0SMDJ190A	5PHV	5.0SMDJ190CA	5BHV	211.0	232.0	1	5	190.0	16.2	307.8
5.0SMDJ200A	5PHX	5.0SMDJ200CA	5BHX	224.0	247.0	1	5	200.0	15.4	324.0
5.0SMDJ220A	5PHZ	~	~	246.0	272.0	1	5	220.0	14.0	356.0
5.0SMDJ250A	5PKE	~	~	279.0	309.0	1	5	250.0	12.3	405.0
5.0SMDJ300A	5PKG	~	~	335.0	371.0	1	5	300.0	10.3	486.0
5.0SMDJ350A	5PKM	~	~	391.0	432.0	1	5	350.0	8.8	567.0
5.0SMDJ400A	5PKR	~	~	447.0	494.0	1	5	400.0	7.7	648.0
5.0SMDJ440A	5PKT	~	~	492.0	543.0	1	5	440.0	7.0	713.0

Typical Characteristics

Fig. 1 - Pulse Derating Curve

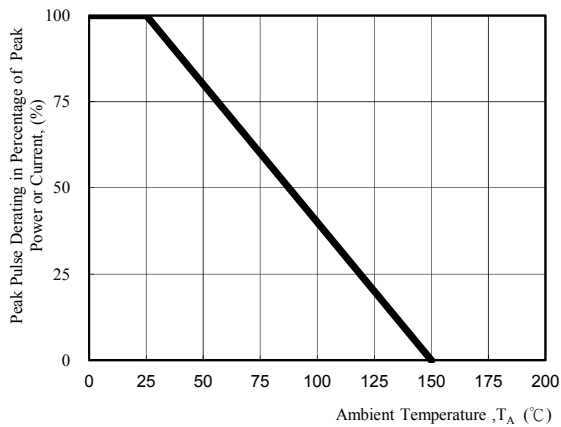


Fig. 2 - Maximum Non-Repetitive Surge Current

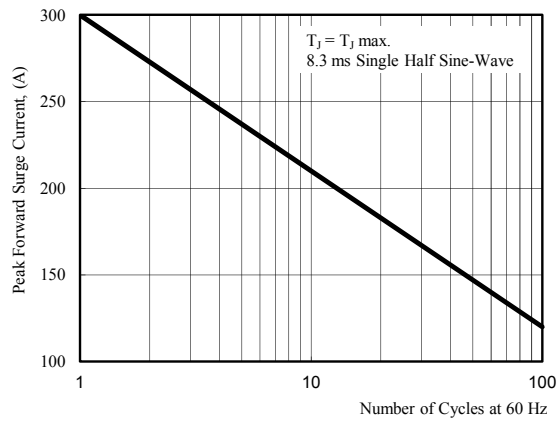


Fig. 3 - Steady State Power Derating Curve

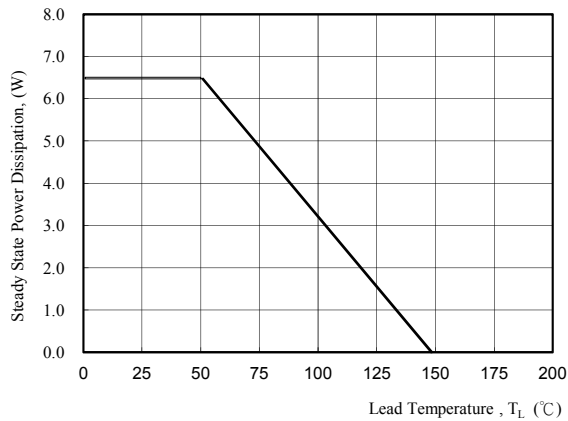


Fig. 4 - Peak Pulse Power Rating Curve

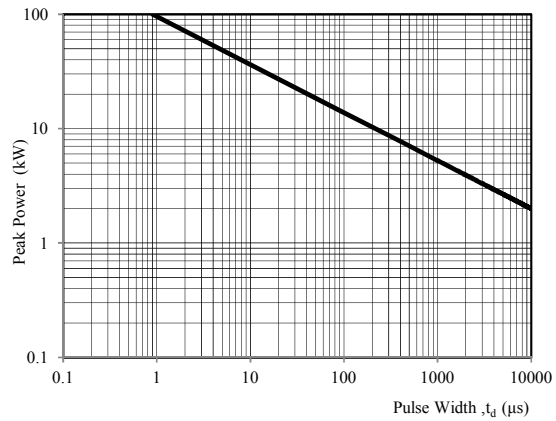


Fig. 5 - Pulse Waveform

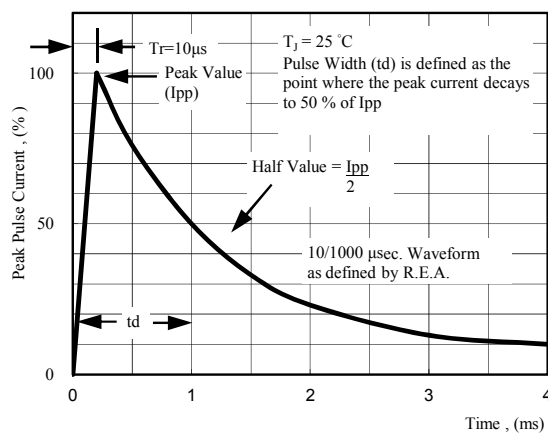
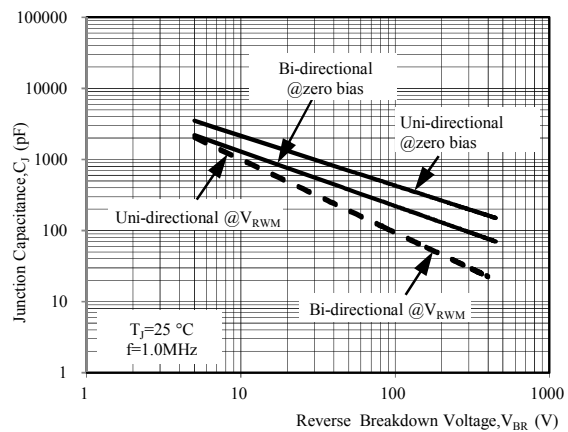
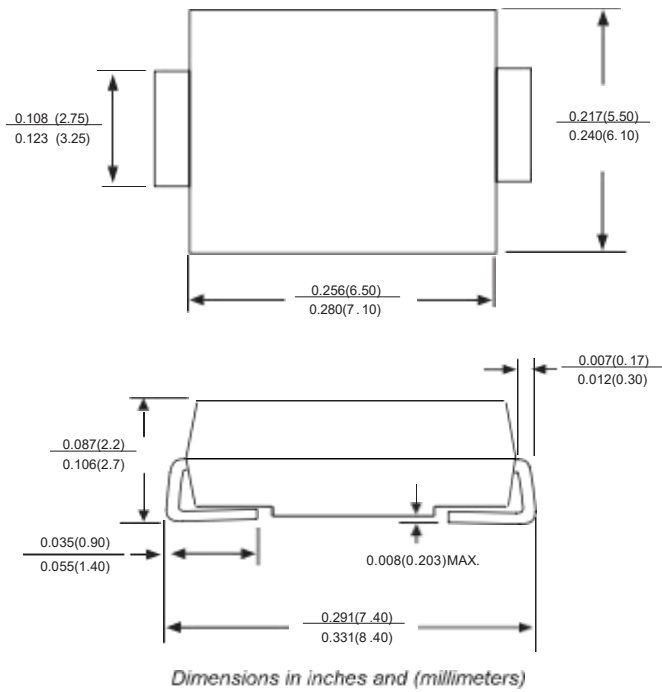


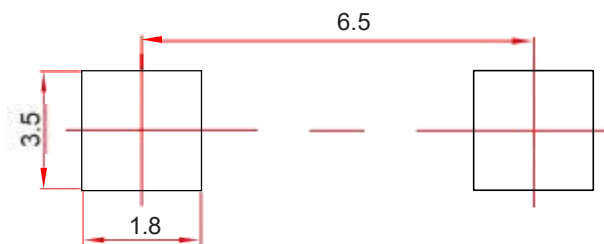
Fig. 6 - Typical Junction Capacitance



SMC Package outline Dimensions



SMC Suggested pad Layout



Note:

1. Controlling dimension: In millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.