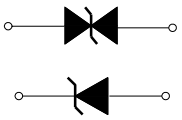
SMC

Features

- P_{PP} 1500W
- V_{RWM} 5.0V- 440V
- Glass passivated chip

Bi-directional

Uni-direction



Limiting values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak pulse power dissipation	P_{PPM}	W	with a 10/1000us waveform	1500
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=50℃	6.5
Peak forward surge current(2)	I_{FSM}	A	8.3 ms single half sine-wave unidirectional only	200
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 100A for unidirectional only	3.5/5.0
Thermal resistance	$R_{\theta JL}$	℃/W	junction to lead	15
	$R_{\theta JA}$	℃/W	junction to ambient	75

Electrical Characteristics (T_A=25℃unless otherwise noted)

Number UNI		Number BI		Breakdown Voltage V_{BR}@I_T			I_R @V_{WM} Reverse Leakage I_R (μA)	V_{RWM} Working Peak Reverse Voltage V_{RWM} (V)	Reverse Surge Current IPP (A)	Clamping Voltage Vc @ I_{PP} (V)
				Min(V)	Max (V)	IT(mA)				
SMCJ5.0A	GDE	SMCJ5.0CA	BDE	6.40	7.07	10.0	1000	5.0	163.0	9.2
SMCJ6.0A	GDG	SMCJ6.0CA	BDG	6.67	7.37	10.0	1000	6.0	145.6	10.3
SMCJ6.5A	GDK	SMCJ6.5CA	BDK	7.22	7.98	10.0	500	6.5	133.9	11.2
SMCJ7.0A	GDM	SMCJ7.0CA	BDM	7.78	8.60	10.0	200	7.0	125.0	12.0
SMCJ7.5A	GDP	SMCJ7.5CA	BDP	8.33	9.21	1.0	100	7.5	116.3	12.9
SMCJ8.0A	GDR	SMCJ8.0CA	BDR	8.89	9.83	1.0	50	8.0	110.3	13.6
SMCJ8.5A	GDT	SMCJ8.5CA	BDT	9.44	10.40	1.0	20	8.5	104.2	14.4
SMCJ9.0A	GDV	SMCJ9.0CA	BDV	10.00	11.10	1.0	10	9.0	97.4	15.4
SMCJ10A	GDX	SMCJ10CA	BDX	11.10	12.30	1.0	5	10.0	88.2	17.0
SMCJ11A	GDZ	SMCJ11CA	BDZ	12.20	13.50	1.0	5.	11.0	82.4	18.2
SMCJ12A	GEE	SMCJ12CA	BEE	13.30	14.70	1.0	5	12.0	75.4	19.9
SMCJ13A	GEG	SMCJ13CA	BEG	14.40	15.90	1.0	5	13.0	69.8	21.5
SMCJ14A	GEK	SMCJ14CA	BEK	15.60	17.20	1.0	5	14.0	64.7	23.2
SMCJ15A	GEM	SMCJ15CA	BEM	16.70	18.50	1.0	5	15.0	61.5	24.4
SMCJ16A	GEP	SMCJ16CA	BEP	17.80	19.70	1.0	5	16.0	57.7	26.0
SMCJ17A	GER	SMCJ17CA	BER	18.90	20.90	1.0	5	17.0	54.3	27.6
SMCJ18A	GET	SMCJ18CA	BET	20.00	22.10	1.0	5	18.0	51.4	29.2
SMCJ20A	GEV	SMCJ20CA	BEV	22.20	24.50	1.0	5	20.0	46.3	32.4
SMCJ22A	GEX	SMCJ22CA	BEX	24.40	26.90	1.0	5	22.0	42.3	35.5
SMCJ24A	GEZ	SMCJ24CA	BEZ	26.70	29.50	1.0	5	24.0	38.6	38.9
SMCJ26A	GFE	SMCJ26CA	BFE	28.90	31.90	1.0	5	26.0	35.6	42.1
SMCJ28A	GFG	SMCJ28CA	BFG	31.10	34.40	1.0	5	28.0	33.0	45.4
SMCJ30A	GFK	SMCJ30CA	BFK	33.30	36.80	1.0	5	30.0	31.0	48.4
SMCJ33A	GFM	SMCJ33CA	BFM	36.70	40.60	1.0	5	33.0	28.1	53.3
SMCJ36A	GFP	SMCJ36CA	BFP	40.00	44.20	1.0	5	36.0	25.8	58.1
SMCJ40A	GFR	SMCJ40CA	BFR	44.40	49.10	1.0	5	40.0	23.3	64.5
SMCJ43A	GFT	SMCJ43CA	BFT	47.80	52.80	1.0	5	43.0	21.6	69.4
SMCJ45A	GFV	SMCJ45CA	BFV	50.00	55.30	1.0	5	45.0	20.6	72.7
SMCJ48A	GFX	SMCJ48CA	BFX	53.30	58.90	1.0	5	48.0	19.4	77.4
SMCJ51A	GFZ	SMCJ51CA	BFZ	56.70	62.70	1.0	5	51.0	18.2	82.4
SMCJ54A	GGE	SMCJ54CA	BGE	60.00	66.30	1.0	5	54.0	17.2	87.1
SMCJ58A	GGG	SMCJ58CA	BGG	64.40	71.20	1.0	5	58.0	16.0	93.6
SMCJ60A	GGK	SMCJ60CA	BGK	66.70	73.70	1.0	5	60.0	15.5	96.8
SMCJ64A	GGM	SMCJ64CA	BGM	71.10	78.60	1.0	5	64.0	14.5	103.0
SMCJ70A	GGP	SMCJ70CA	BGP	77.80	86.00	1.0	5	70.0	13.3	113.0
SMCJ75A	GGR	SMCJ75CA	BGR	83.30	92.10	1.0	5	75.0	12.4	121.0
SMCJ78A	GGT	SMCJ78CA	BGT	86.70	95.80	1.0	5	78.0	11.9	126.0

Electrical Characteristics (T_A=25℃unless otherwise noted)

Number UNI		Number BI		Breakdown Voltage V_{BR}@I_T			I_R @ V_{WM} Reverse Leakage I_R (μA)	V_{RWM} Working Peak Reverse Voltage V_{RWM} (V)	Reverse Surge Current IPP (A)	Clamping Voltage Vc @ I_{PP} (V)
				Min(V)	Max (V)	IT(mA)				
SMCJ85A	GGV	SMCJ85CA	BGV	94.40	104.00	1.0	5	85.0	10.9	137.0
SMCJ90A	GGX	SMCJ90CA	BGX	100.00	111.00	1.0	5	90.0	10.3	146.0
SMCJ100A	GGZ	SMCJ100CA	BGZ	111.00	123.00	1.0	5	100.0	9.3	162.0
SMCJ110A	GHE	SMCJ110CA	BHE	122.00	135.00	1.0	5	110.0	8.5	177.0
SMCJ120A	GHG	SMCJ120CA	BHG	133.00	147.00	1.0	5	120.0	7.8	193.0
SMCJ130A	GHK	SMCJ130CA	BHK	144.00	159.00	1.0	5	130.0	7.2	209.0
SMCJ150A	GHM	SMCJ150CA	BHM	167.00	185.00	1.0	5	150.0	6.2	243.0
SMCJ160A	GHP	SMCJ160CA	BHP	178.00	197.00	1.0	5	160.0	5.8	259.0
SMCJ170A	GHR	SMCJ170CA	BHR	189.00	209.00	1.0	5	170.0	5.4	275.0
SMCJ180A	GHT	SMCJ180CA	BHT	200.00	220.00	1.0	5	180.0	5.1	291.6
SMCJ200A	GHV	SMCJ200CA	BHV	224.00	247.00	1.0	5	200.0	4.6	324.0
SMCJ220A	GHX	SMCJ220CA	BHX	246.00	272.00	1.0	5	220.0	4.2	356.0
SMCJ250A	GHZ	SMCJ250CA	BHZ	279.00	309.00	1.0	5	250.0	3.7	405.0
SMCJ300A	GJE	SMCJ300CA	BJE	335.00	371.00	1.0	5	300.0	3.1	486.0
SMCJ350A	GJG	SMCJ350CA	BJG	391.00	432.00	1.0	5	350.0	2.6	567.0
SMCJ400A	GJK	SMCJ400CA	BJK	447.00	494.00	1.0	5	400.0	2.3	648.0
SMCJ440A	GJM	SMCJ440CA	BJM	492.00	543.00	1.0	5	440.0	2.1	713.0

Typical Characteristics

FIG1:Peak Pulse Power Rating Curve

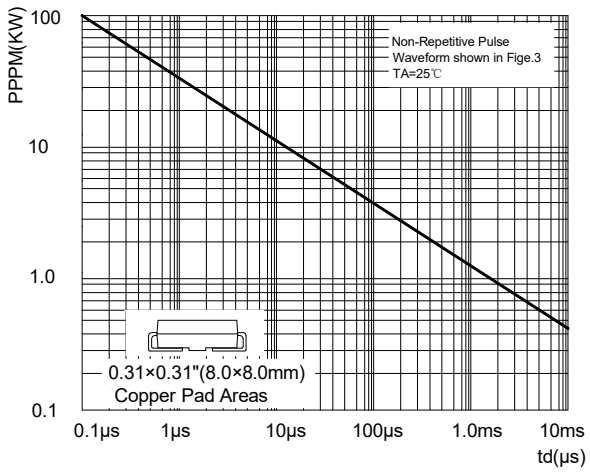


FIG2: Pulse Power or Current vs. Initial Junction Temperature

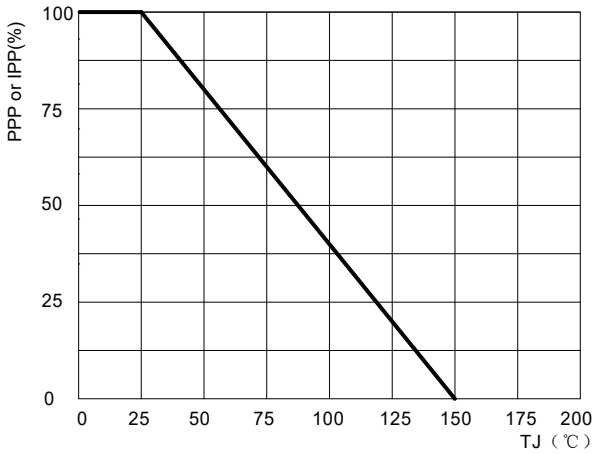


FIG3: Pulse Waveform

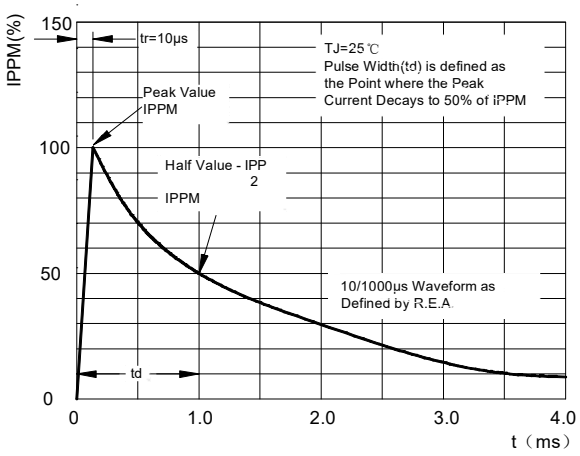


FIG4:Typical Transient Thermal Impedance

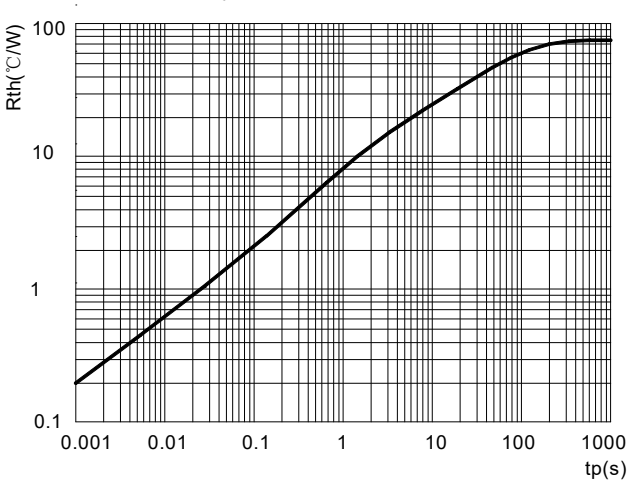


FIG5: Maximum Non-Repetitive Surge Current

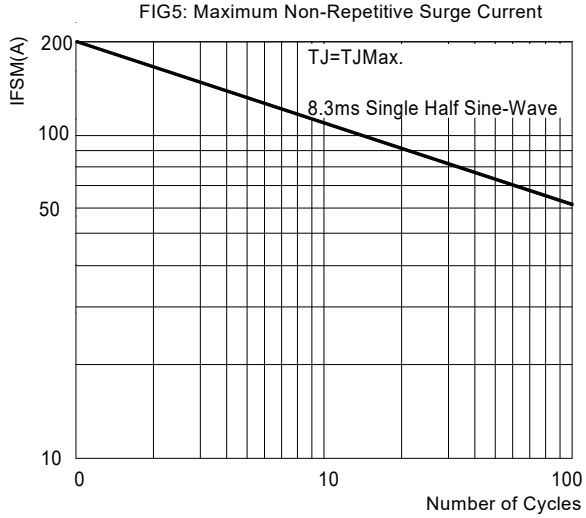
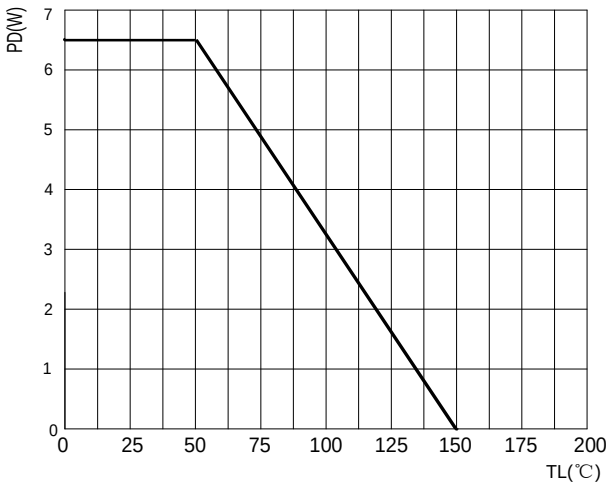
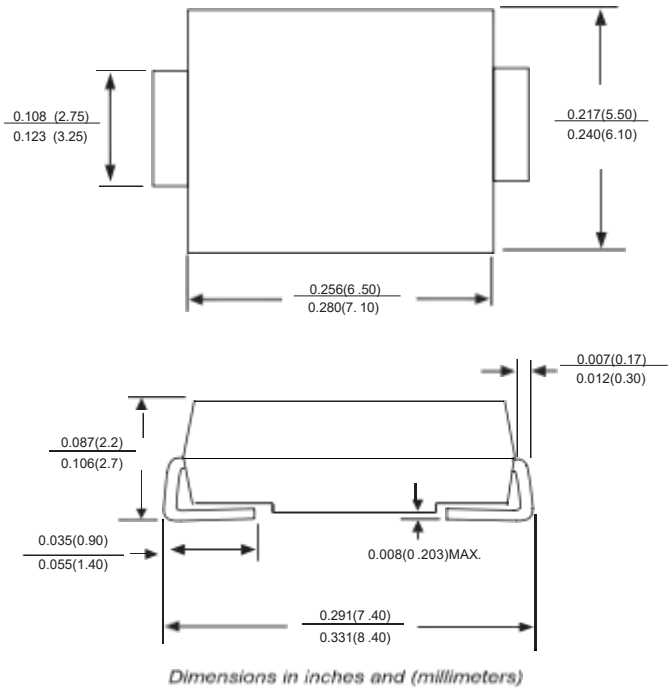


FIG6:Steady State Power Dissipation

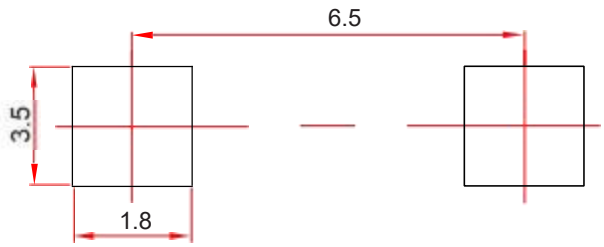


SMC Package outline Dimensions



Dimensions in inches and (millimeters)

SMC Suggested pad Layout



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