

Features

- 8000W peak pulsepower capability at 10 x 1000 μ s waveform, repetition rate (duty cycle): 0.01%
- Low incremental surge resistance
- Glass Passivated chip junction
- Fast response time
- Built-in strain relief
- Halogen free and RoHS compliant

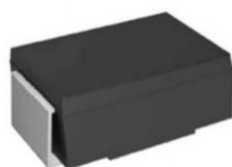
Applications

- Personal digital assistants (PDA)
- Cellular handsets & Accessories
- Handhelds and notebooks
- Portable instrumentation

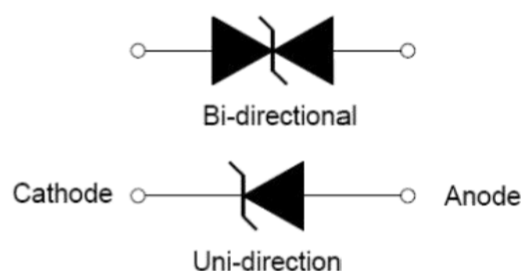
Mechanical Characteristics

- SMC surface mount package

Dimensions and Pin Configuration



DO-214AB (SMC)



Pin Configuration

Maximum Ratings& Thermal Characteristics

(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25°C By 10x1000 μ s waveform (Fig.2)(Note 1) (Note 2)	P _{PPM}	8000	W
Steady state power dissipation at TA=50°C	P _D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Unidirectional only(Note 3)	I _{FSM}	300	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V _F	3.5V/5.0	V
Typical thermal resistance junction to ambient	R _{θJA}	75	°C/W
Storage & operating temperature range	T _{STG} , T _J	-55~+150	°C

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above TA=25°C per Fig.

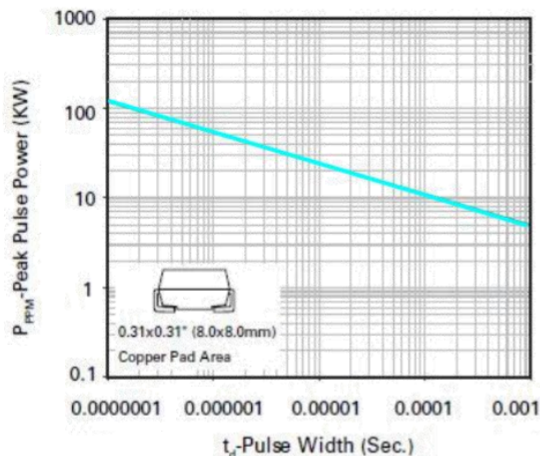
2. Mounted on copper pad area of 0.31x0.31" (8.0 x 8.0mm) to each terminal.

3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.

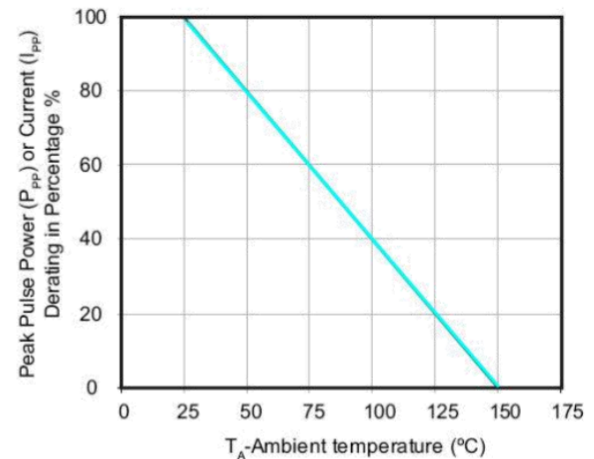
Electrical Characteristics (TA=25°C unless otherwise specified)

PART NUMBER		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE VBR(V)MAX.@I T		TEST CURRENT	REVERSE LEAKAGE @VRWM	PEAK PULSE CURRENT	MAXIMUM CLAMPING VOLTAGE @Ipp
BI- POLAR	UNI-POLAR	VRWM (V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	IR (μA)	Ipp (A)	Vc (v)
8.0SMDJ17CA	8.0SMDJ17A	17.0	18.90	21.70	5	5	290.0	27.6
8.0SMDJ18CA	8.0SMDJ18A	18.0	20.00	23.30	5	5	274.0	29.2
8.0SMDJ20CA	8.0SMDJ20A	20.0	22.20	25.50	5	5	247.0	32.4
8.0SMDJ22CA	8.0SMDJ22A	22.0	24.40	28.00	5	5	225.4	35.5
8.0SMDJ24CA	8.0SMDJ24A	24.0	26.70	30.70	5	5	205.7	38.9
8.0SMDJ26CA	8.0SMDJ26A	26.0	28.90	33.20	5	5	190.1	42.1
8.0SMDJ28CA	8.0SMDJ28A	28.0	31.10	35.80	5	5	176.2	45.4
8.0SMDJ30CA	8.0SMDJ30A	30.0	33.30	38.30	5	5	165.3	48.4
8.0SMDJ33CA	8.0SMDJ33A	36.0	36..7	40.60	5	5	150.1	53.3
8.0SMDJ36CA	8.0SMDJ36A	36.0	40.00	46.00	5	5	137.8	58.1
8.0SMDJ40CA	8.0SMDJ40A	40.0	44.40	51.10	5	5	124.1	64.5
8.0SMDJ43CA	8.0SMDJ43A	43.0	47.8	52.8	5	5	115.3	69.4
8.0SMDJ45CA	8.0SMDJ45A	45.0	50.00	57.50	5	5	110.1	72.7
8.0SMDJ48CA	8.0SMDJ48A	48.0	53.30	58.90	5	5	103.4	77.4
8.0SMDJ51CA	8.0SMDJ51A	51.0	56.70	65.20	5	5	97.1	82.4
8.0SMDJ54CA	8.0SMDJ54A	54.0	60.00	69.00	5	5	92.0	87.1
8.0SMDJ58CA	8.0SMDJ58A	58.0	64.4	71.2	5	5	85.5	93.6
8.0SMDJ60CA	8.0SMDJ60A	60.0	66.7	73.7	5	5	82.7	96.8
8.0SMDJ64CA	8.0SMDJ64A	64	71.10	78.6	5	5	77.7	103.0
8.0SMDJ70CA	8.0SMDJ70A	70	77.80	86.0	5	5	71.0	113.0
8.0SMDJ75CA	8.0SMDJ75A	75	83.30	92.1	5	5	66.2	121.0
8.0SMDJ78CA	8.0SMDJ78A	78	86.70	95.8	5	5	63.5	126.0
8.0SMDJ80CA	8.0SMDJ80A	80	88.80	97.6	5	5	61.7	129.6
8.0SMDJ85CA	8.0SMDJ85A	85	94.40	104.0	5	5	58.4	137.0

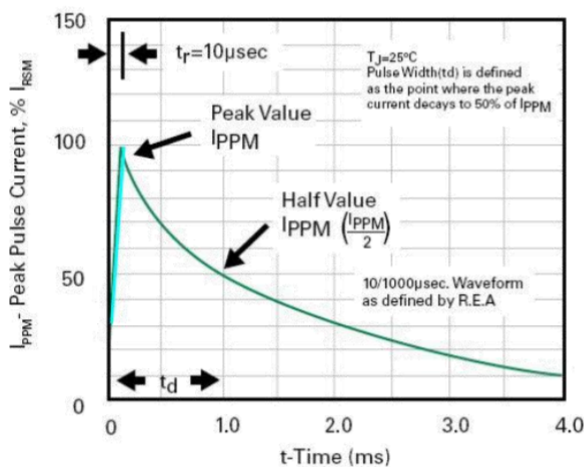
Typical Characteristics Curves



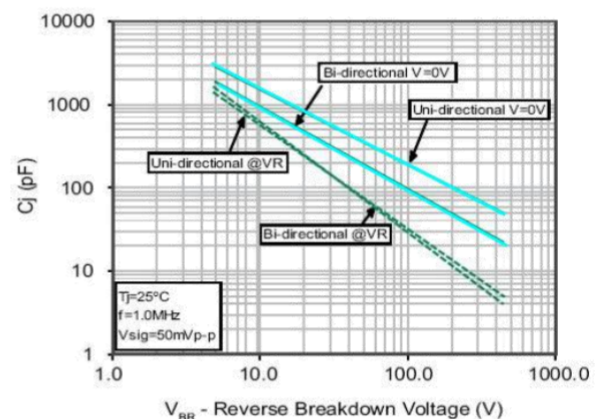
Peak Pulse Power Rating Curve



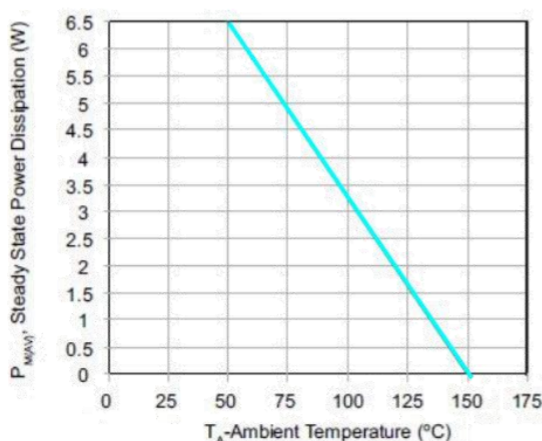
Pulse Derating Curve



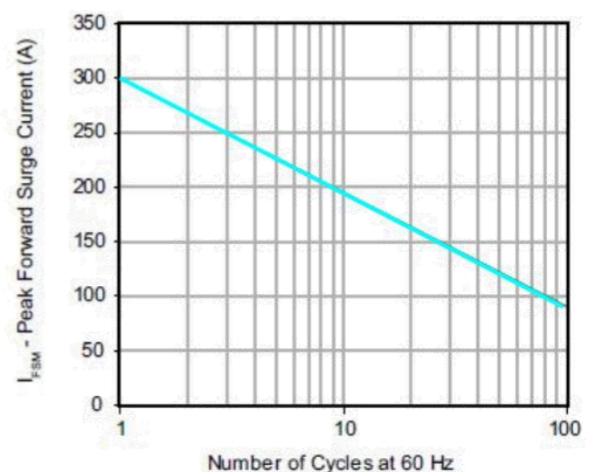
Pulse Waveform



Typical Junction Capacitance



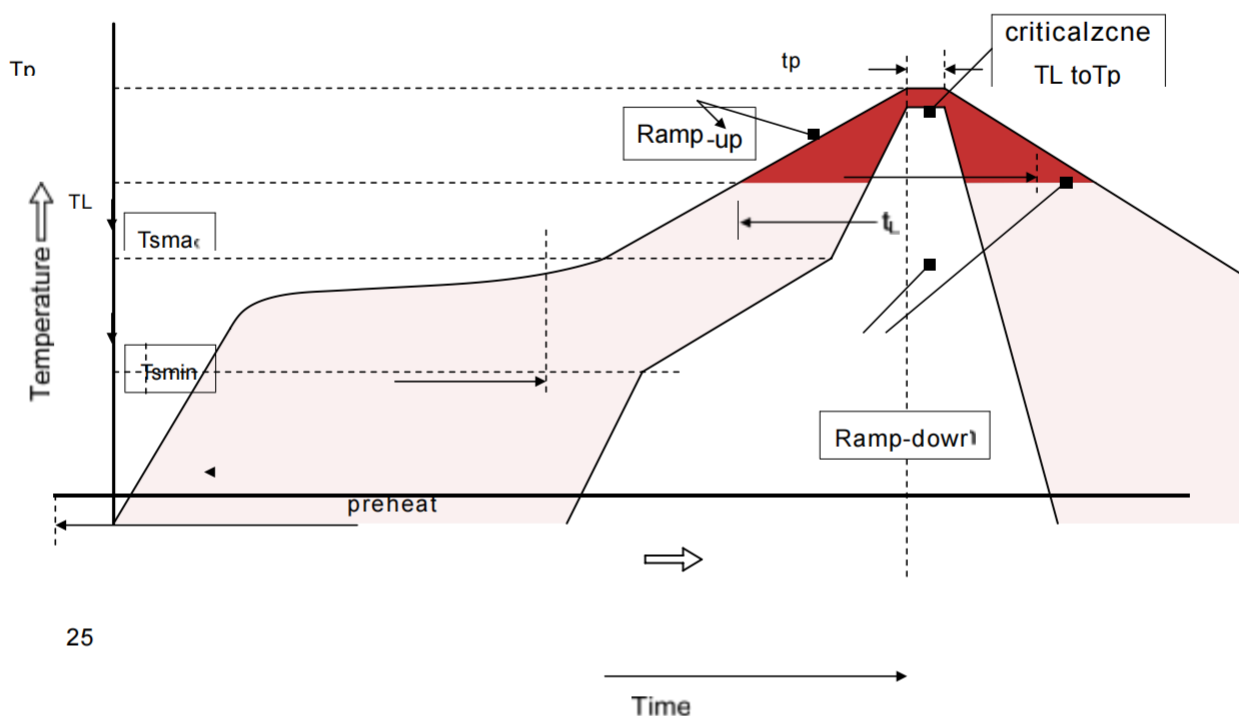
Steady State Power Dissipation Derating Curve



Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

Recommended Soldering Conditions

Reflow Soldering

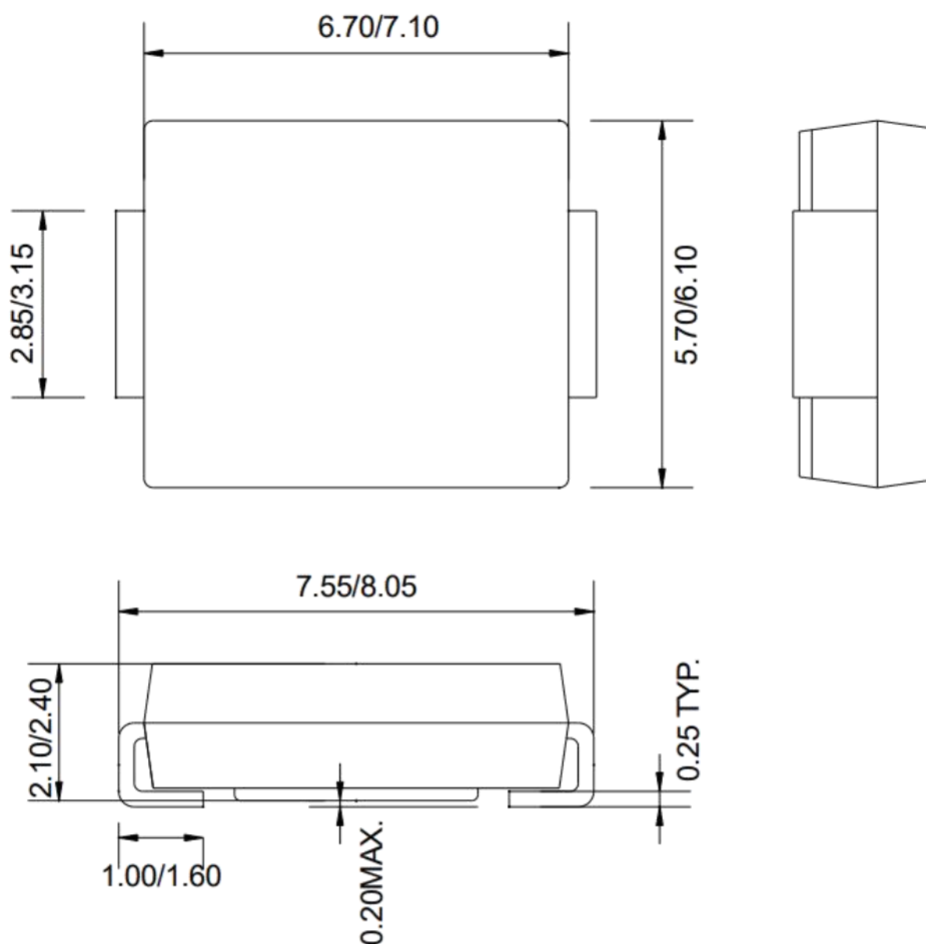


Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	$3^\circ\text{C}/\text{second max.}$
Preheat	
-Temperature Min (T_{Smin})	150°C
-Temperature Max (T_{Smax})	200°C
-Time (min to max) (t_s)	60-180 seconds
T_{Smax} to T_L	
-Ramp-up Rate	$3^\circ\text{C}/\text{second max.}$
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	$6^\circ\text{C}/\text{second max.}$
Time 25°C to Peak Temperature	8 minutes max.

Package Outline Dimensions (unit: mm)

DO-214AB (SMC)



Mounting Pad Layout (unit: mm)

