

Features

- Low-profile package
- Ideal for automated placement
- Available in Unidirectional and Bidirectional
- 1500W peak pulse power capability with a 10/1000µs waveform
- Low incremental surge resistance, excellent clamping capability
- Very fast response time
- High temperature soldering guaranteed: 260°C/10 s at terminals
- Meets MSL level 1



DO-214AB (SMC)

Mechanical Data

- Package: DO-214AB (SMC)
- Molding compound meets UL 94 V-0 flammability rating, RoHS compliant
- Terminals: Tin plated leads, solderable per STD-002 and JESD22-B102
- Polarity: For uni-directional type, the band denotes cathode end. No cathode bond marking on bi-directional type

Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, telecommunication.

Maximum Ratings (T_A=25°C unless otherwise noted)

Parameters	Symbol	Value	Unit
Maximum Peak Power Dissipation, with a 10/1000us Waveform ^{1,2}	P _{PPM}	1500	W
Maximum Power Dissipation, on Infinite Heat Sink at T _L =75°C ²	P _D	6.5	W
Maximum Peak Forward Surge Current, 8.3ms Single Half Sine-Wave, Unidirectional only ³	I _{FSM}	200	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V _{FM}	5	V
Typical Thermal Resistance Junction to Ambient ⁴	R _{θJA}	75	°C/W
Typical Thermal Resistance Junction to Lead	R _{θJL}	15	°C/W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above T_A=25°C per Fig.2.
2. Mounted on 0.31 x 0.31" (8.0 x 8.0 mm) copper pads to each terminal
3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.
4. Mounted on minimum recommended pad layout.

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

Part Number (Uni)	Part Number (Bi)	Marking Code		Breakdown Voltage V _{BR} At I _T (V) ¹		Test Current I _T (mA)	Stand off Voltage V _{WM} (V)	Maximum Reverse Leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Surge Current I _{PPM} (A) ²	Maximum Clamping Voltage At I _{PPM} V _C (V)	Maximum Temperature Coefficient Of V _{BR} (%/°C)
		Uni	Bi	Min	Max						
SMCJ188A	SMCJ188CA	GHS	GHS	209	231	1.0	188	1.0	4.6	328	0.108

Notes:

1. Pulse test: t_p ≤ 50 ms.
2. Surge current waveform per fig. 3 and derate per fig. 2.

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

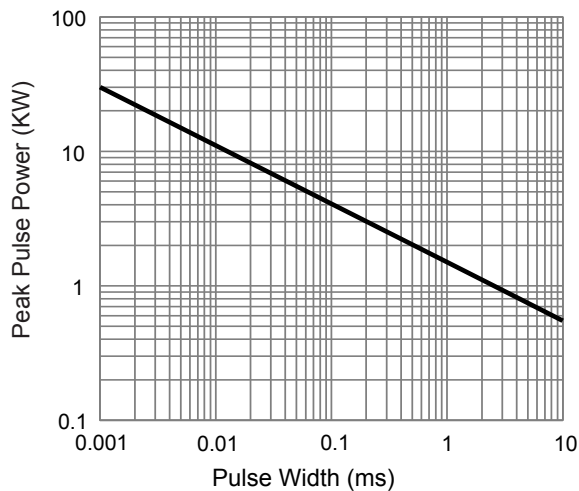


Figure 1. Peak Pulse Power Derating Curve

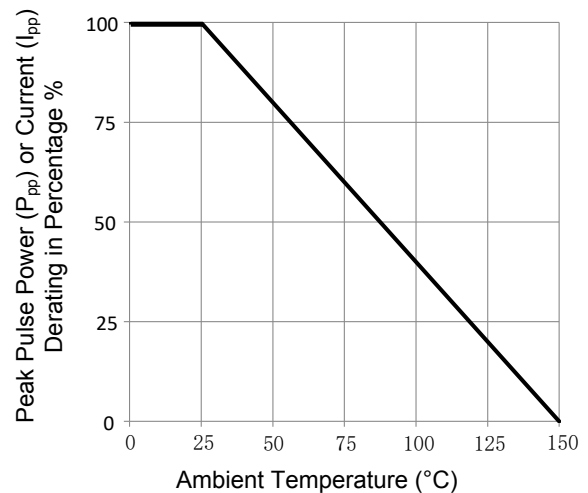


Figure 2. Pulse Power vs. Ambient Temperature

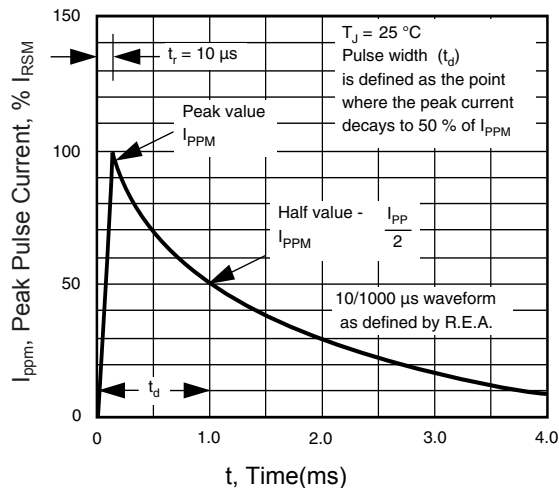


Figure 3. Pulse Waveform

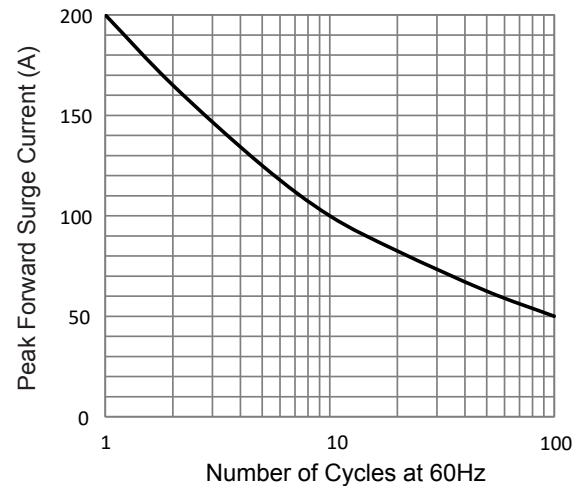
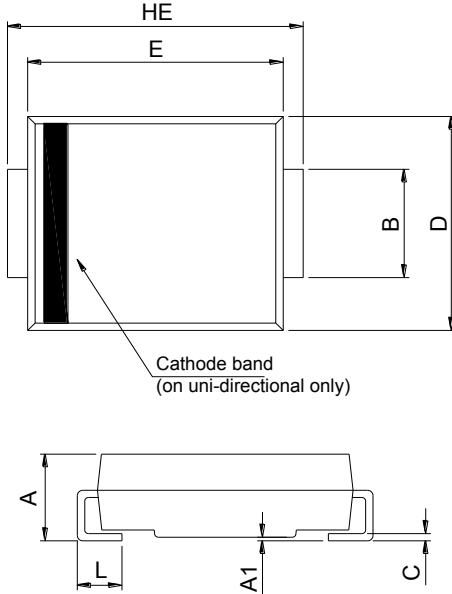


Figure 4. Maximum Non-Repetitive Surge Current

SMCJ188x Series

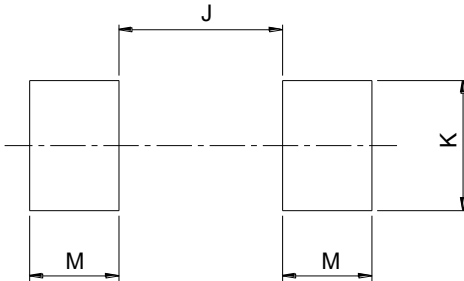
Surface Mount Transient Voltage Suppressor Diodes
 Peak Pulse Power 1500W Stand-off Voltage 188V

Package Outline Dimensions DO-214AB (SMC)



SMC (DO-214AB)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.00	0.20	0.000	0.008
B	2.90	3.20	0.114	0.126
C	0.15	0.31	0.006	0.012
D	5.58	6.22	0.220	0.245
E	6.60	7.15	0.260	0.281
HE	7.75	8.15	0.305	0.321
L	0.76	1.60	0.030	0.063

Recommended Pad Layout



SMC Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	4.60	-	0.181
K	3.20	-	0.126	-
M	2.00	-	0.079	-

Ordering information

Device	Package	Marking	Quantity	HSF Status
SMCJ188A	SMC	GHS	3,000pcs / Reel	RoHS Compliant
SMCJ188CA	SMC	GHS	3,000pcs / Reel	RoHS Compliant