Features

SMC

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Surge Overload Rating to 100A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- Lead Free Finish/RoHS Compliant
- Green Molding Compound (No Halogen and Antimony)

Mechanical Data

- Case: SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams (approximate)

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
B390-13-F	SMC	B390C	3000

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

Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Item	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	90	V
Maximum RMS Voltage	V_{RMS}	36	V
Average Rectified Output Current @ Tj = 90°C	I_O	3.0	A
Surge(Non-repetitive)Forward Current	I_{FSM}	100	A
Junction Temperature	T_J	-55~+125	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C
Typical Thermal Resistance Junction to Terminal	$R_{\theta JT}$	10	°C/W

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

Characteristics	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	- -	- -	0.79 0.69	V	I_F = 3.0A, T_A = 25 °C I_F = 3.0A, T_A = 100 °C
Leakage Current (Note 1)	I_R	- -	- -	0.5 20	mA	@ Rated V_R, T_A = 25°C @ Rated V_R, T_A = 100°C
Total Capacitance	C_T	-	-	100	pF	V_R = 4V, f = 1MHz

Notes: 1. Short duration pulse test used to minimize self-heating effect.

Typical Characteristics

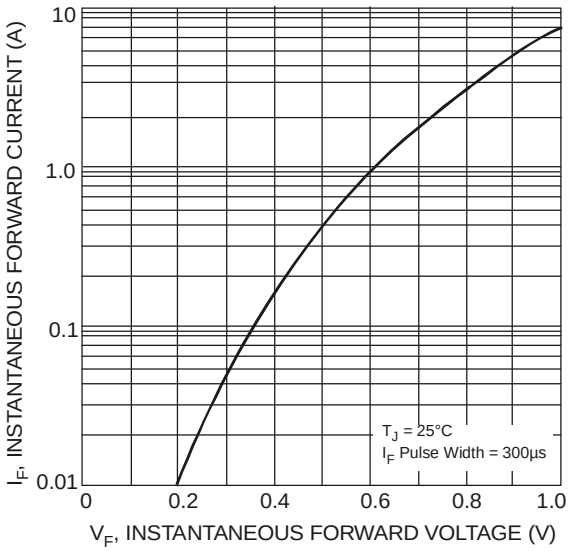


Fig. 1 Typical Forward Characteristics

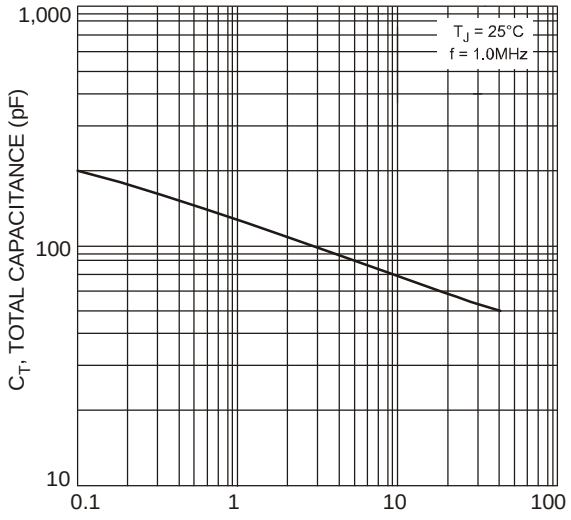


Fig. 2 Total Capacitance vs. Reverse Voltage

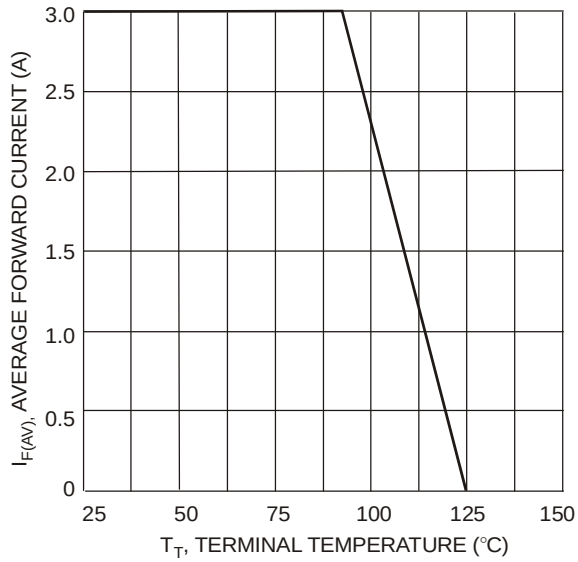


Fig. 3 Forward Current Derating Curve

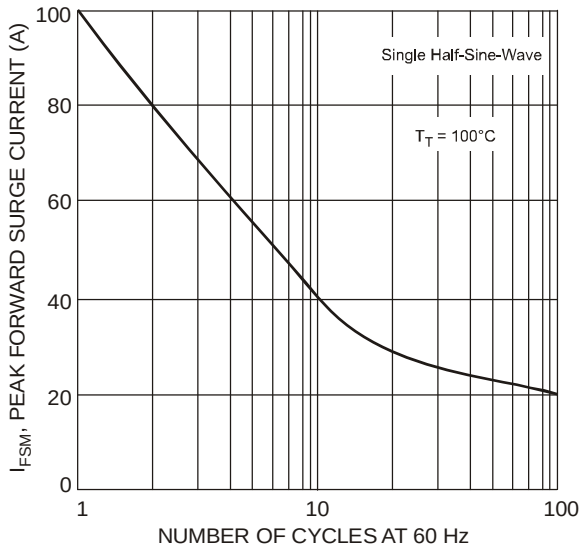
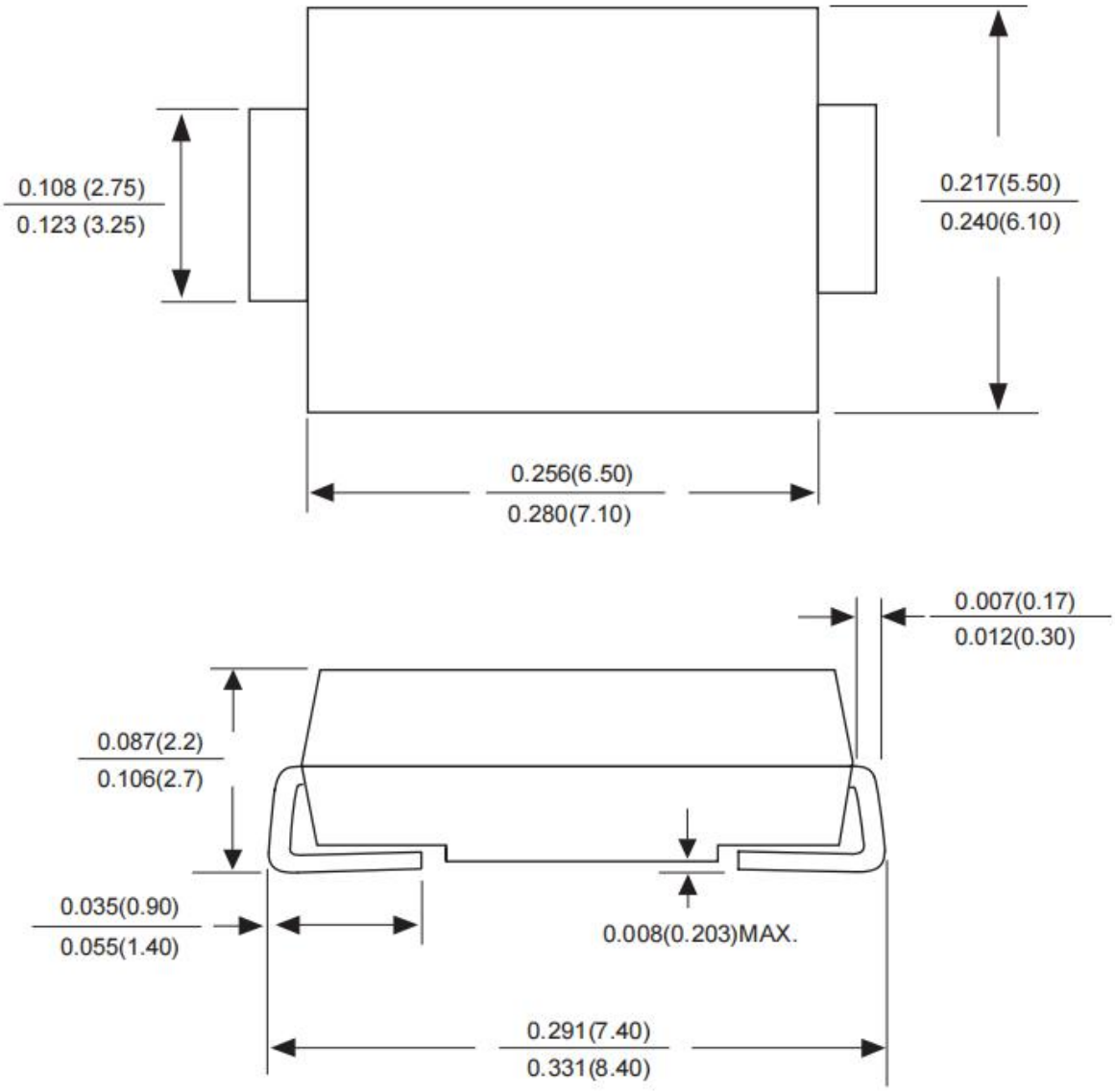


Fig. 4 Max Non-Repetitive Peak Forward Surge Current

Package Outline Dimensions

SMC



Dimensions in inches and (millimeters)

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