



### SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Voltage

100 V

Current

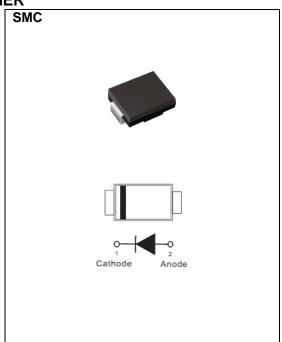
5 A

#### **Features**

- Low forward voltage drop
- Deal for automated placement
- Low power loss, high efficiency
- High surge current capability
- Green molding compound as per IEC 61249 standard
- Lead free in compliance with EU RoHS 2.0
- AEC-Q101 qualified

#### **Mechanical Data**

- Case: JEDEC DO-214AB molded plastic
- Polarity: Color Band denotes cathode end
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0082 ounces, 0.2325 grams



## **Maximum Ratings and Thermal Characteristics** (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	V
Maximum RMS Voltage	$V_{RMS}$	70	V
Maximum DC Blocking Voltage	$V_{DC}$	100	V
Maximum Average Forward Rectified Current	I <sub>F(AV)</sub>	5	Α
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	100	А
Typical Junction Capacitance  Measured at 1 MHz And Applied $V_R = 4V$	CJ	180	pF
	R <sub>θJA</sub> <sup>(1)</sup>	55	
Typical Thermal Resistance per diode	R <sub>0JC</sub> (2)	15	°C/W
	R <sub>eJL</sub> (1)	17	
Operating Junction Temperature Range	TJ	-65 to +175	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +175	°C





# **Electrical Characteristics** (T<sub>A</sub> = 25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Instantaneous forward voltage	V <sub>F</sub>	$I_F = 1 \text{ A}, T_J = 25 ^{\circ}\text{C}$	-	0.58	ı	V
		$I_F = 2 \text{ A}, T_J = 25 ^{\circ}\text{C}$	-	0.71	ı	
		$I_F = 5 \text{ A}, T_J = 25 ^{\circ}\text{C}$	-	-	0.8	
		$I_F = 1 \text{ A}, T_J = 125 ^{\circ}\text{C}$	-	0.47	1	
		$I_F = 2 \text{ A}, T_J = 125 ^{\circ}\text{C}$	-	0.57	ı	
		$I_F = 5 \text{ A}, T_J = 125 ^{\circ}\text{C}$	-	0.62	1	
Reverse current	I <sub>R</sub> <sup>(3)</sup>	$V_R = 80 \text{ V}, T_J = 25 ^{\circ}\text{C}$	-	0.3	-	- uA
		V <sub>R</sub> = 100 V, T <sub>J</sub> = 25 °C	-	-	50	
		V <sub>R</sub> = 100 V, T <sub>J</sub> = 100 °C	-	-	10	mA

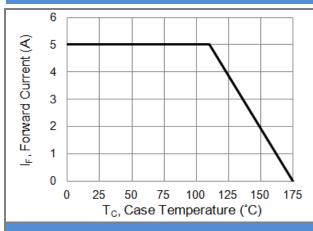
### NOTES:

- 1. Mounted on a PCB, single-sided copper, with 14 mm2 (0.013mm thick) copper pad area
- 2. Mounted on a FR4 PCB, single-sided copper, with 100 cm<sup>2</sup> copper pad area
- 3. Short duration pulse test used to minimize self-heating effect





#### **TYPICAL CHARACTERISTIC CURVES**



**Fig.1 Forward Current Derating Curve** 

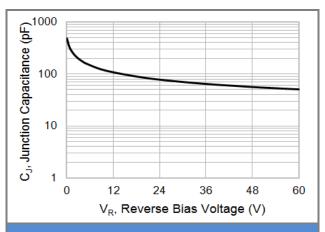


Fig.2 Typical Junction Capacitance

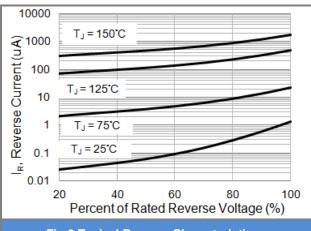


Fig.3 Typical Reverse Characteristics

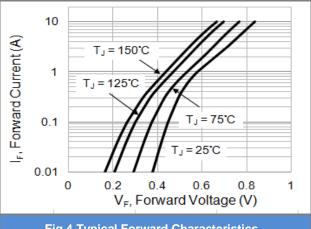
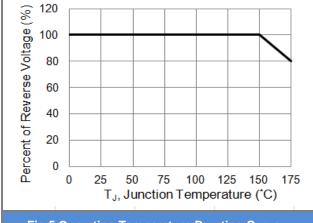


Fig.4 Typical Forward Characteristics



**Fig.5 Operating Temperature Derating Curve** 

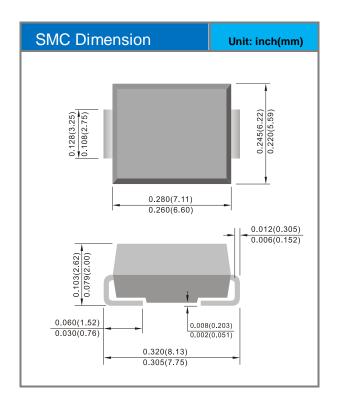


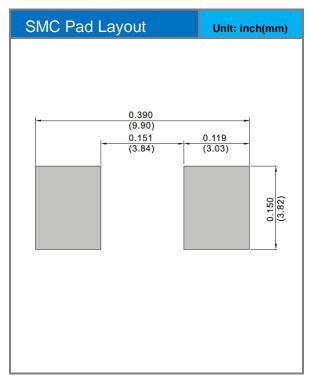


### **Part No Packing Code Version**

Part No Packing Code	Package Type	Packing Type	Marking	Version
MB510-AU_R2_000A1	SMC	3000 pcs / 13" reel	MB510	Halogen free

### **Packaging Information & Mounting Pad Layout**









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