

# MBRA120 THRU MBRA100

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 100 V

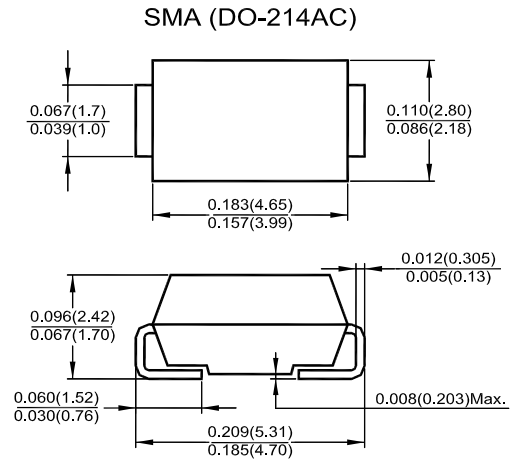
Forward Current - 1 A

### Features

- Plastic package has Underwriters Laboratory flammability classification 94V-0
- Metal silicon junction, majority carrier conduction
- For surface mount applications
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability

### Mechanical Characteristics

- **Case:** SMA (DO-214AC), molded plastic body
- **Terminals:** solder plated, solderable per MIL-STD-750, method 2026
- **Polarity:** color band denotes cathode end



Dimensions in inches and (millimeters)

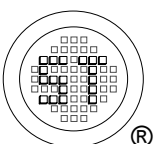
### Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%.

Parameter	Symbols	MBRA120	MBRA130	MBRA140	MBRA150	MBRA160	MBRA180	MBRA100	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	30	40	50	60	80	100	V
Maximum RMS Voltage	$V_{RMS}$	14	21	28	35	42	56	70	V
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	50	60	80	100	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	40							A
Maximum Forward Voltage at 1 A <sup>1)</sup>	$V_F$	0.55			0.75		0.85		V
Maximum DC Reverse Current at $T_a = 25^\circ\text{C}$	$I_R$	0.2							mA
Rated DC Blocking Voltage <sup>1)</sup> $T_a = 100^\circ\text{C}$		10							
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JA}$	88							°C/W
	$R_{\theta JL}$	28							
Operating Junction Temperature Range	$T_J$	- 65 to + 125			- 65 to + 150				°C
Storage Temperature Range	$T_S$	- 65 to + 150							°C

<sup>1)</sup> Pulse test: 300  $\mu\text{s}$  pulse width, 1% duty cycle

<sup>2)</sup> P.C.B mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas



**SEMTECH ELECTRONICS LTD.**

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Certificate No. 05103



ISO 14001:2004  
Certificate No. 7116



ISO 9001:2000  
Certificate No. 0506098

Dated : 07/05/2008 J

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FIG.1-FORWARD CURRENT DERATING CURVE

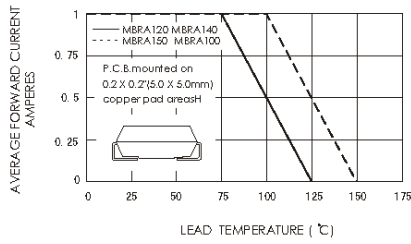


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

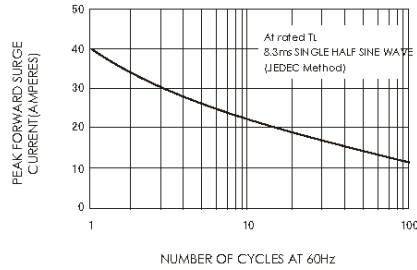


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

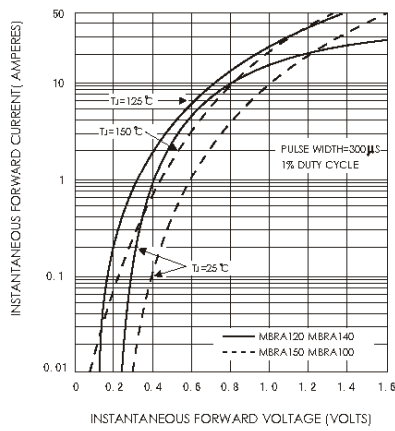


FIG.4-TYPICAL REVERSE CHARACTERISTICS

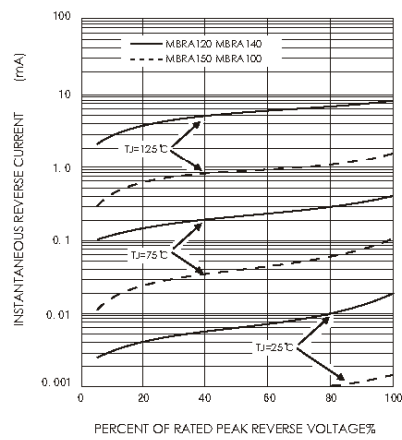
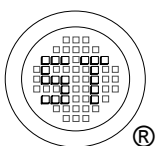
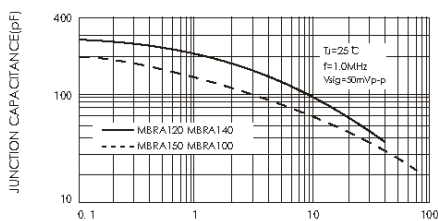


FIG.5-TYPICAL JUNCTION CAPACITANCE



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