

MBRA550F

Surface Mount Schottky Barrier Rectifier

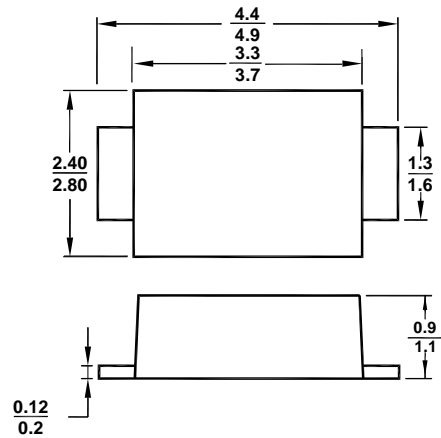
Reverse Voltage - 50 V

Forward Current - 5 A

Features

- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

SMAF



All Dimensions in mm

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	MBRA550F		-
	Marking	A550		-
	Symbols	Typ.	Max.	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	-	50	V
Maximum DC Blocking Voltage	V_R	-	50	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	-	5	A
Peak Forward Surge Current 8.3 ms Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	-	100	A
Instantaneous Forward Voltage at 2.5 A	$T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$ V_F	0.39 0.32	- -	V
Instantaneous Forward Voltage at 5 A	$T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$ V_F	0.46 0.44	0.5 0.5	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$ I_R	-	150 45	μA mA
Thermal Resistance, Junction to Ambient ¹⁾	$R_{\theta JA}$	-	38	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case ¹⁾	$R_{\theta JC}$	-	28	$^\circ\text{C/W}$
Junction Temperature Range	T_j	-	- 55 to + 150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-	- 55 to + 150	$^\circ\text{C}$

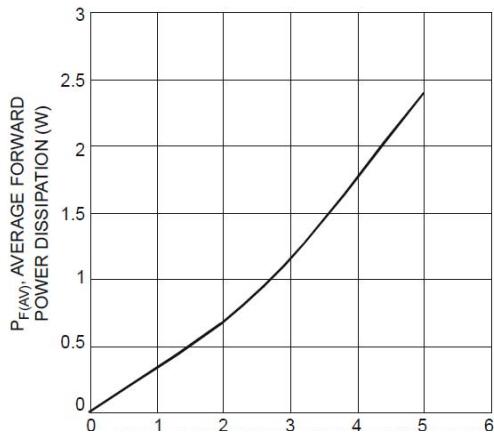
¹⁾ Device mounted on FR-4 substrate, 1" x 1", 2oz, single-sided, PC boards with 0.56" x 0.73" copper pad.

TOP DYNAMIC

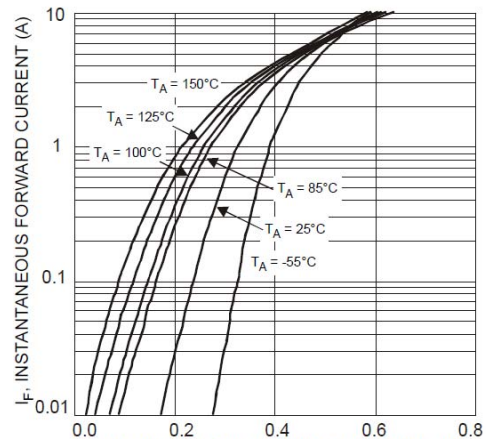


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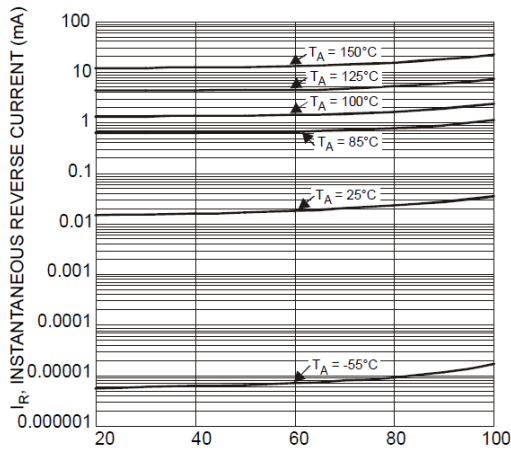
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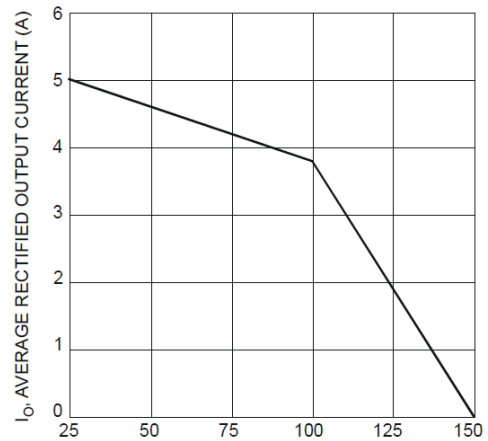
I_O , AVERAGE RECTIFIED OUTPUT CURRENT (A)
Figure 1 Forward Power Dissipation ¹⁾



V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Figure 2 Typical Forward Characteristics



V_R , PERCENTAGE RATED PEAK REVERSE VOLTAGE(%)
Figure 3 Typical Reverse Characteristics



T_A , AMBIENT TEMPERATURE (°C)
Figure 4 Forward Current Derating Curve ¹⁾

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