



DESCRIPTION

The MBR320F~MBR3200F are available in SOD-123FL Package

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low power loss, high efficiency
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- Guardring for over voltage protection
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Available in SOD-123FL Package

ORDERING INFORMATION

Package Type	Part Number
SOD-123FL	MBR320F
	MBR330F
	MBR340F
	MBR350F
	MBR360F
	MBR380F
	MBR3100F
	MBR3150F
	MBR3200F
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

MECHANICAL DATA

Case: SOD-123FL/MINI SMA

molded plastic over sky die

Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.0155 g

Handling precautin: None

PIN DESCRIPTION





ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MBR 320F	MBR 330F	MBR 340F	MBR 350F	MBR 360F	MBR 380F	MBR 3100F	MBR 3150F	MBR 3200F	Unit	
Maximum & Thermal Characteristics Ratings												
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	V	
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V	
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	80	100	150	200	V	
Maximum Average Forward Rectified Current at $T_C=75^\circ\text{C}$	$I_{F(AV)}$	3.0									A	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	80									A	
Typical thermal resistance ^{NOTE1}	$R_{\theta JA}$	85									°C/W	
Operating Junction Temperature Range	T_J	-55~+150									°C	
Storage Temperature Range	T_{STG}	-65~+175									°C	
Electrical Characteristics Ratings												
Max Instantaneous Forward Voltage at 3.0A	V_F	0.50			0.70		0.85		0.9		0.92	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_A=25^\circ\text{C}$		0.5		$T_A=100^\circ\text{C}$		20		mA		
Typical Junction Capacitance at 4.0V, 1MHz	C_J	160									pF	

NOTE1: 8.0mm² (.013mm thick) land areas



TYPICAL CHARACTERISTICS

$T_A = 25^\circ\text{C}$ unless otherwise noted

Figure 1. Forward Current Derating Curve

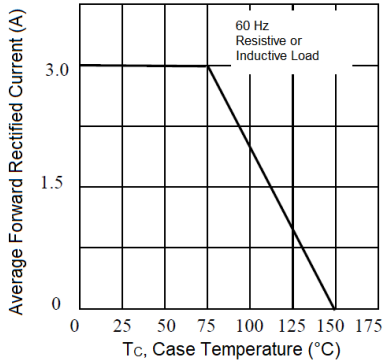


Figure 3. Typical Instantaneous Forward Characteristics

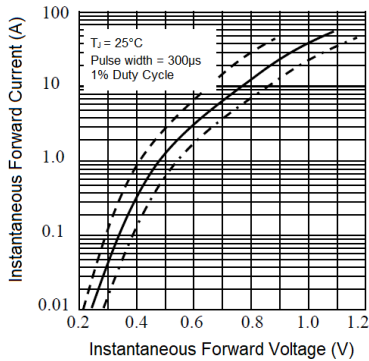


Figure 5. Typical Transient Thermal Impedance

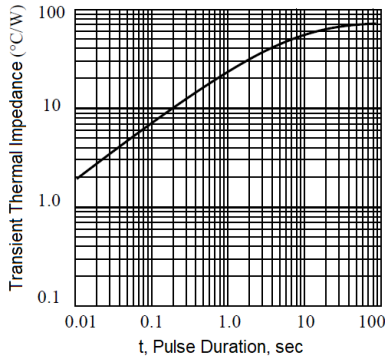


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

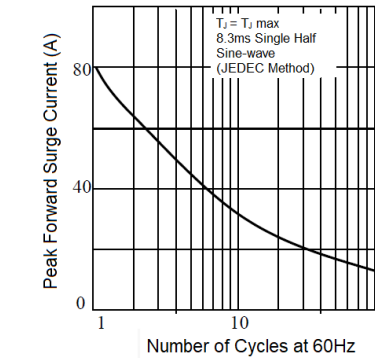


Figure 4. Typical Reverse Characteristics

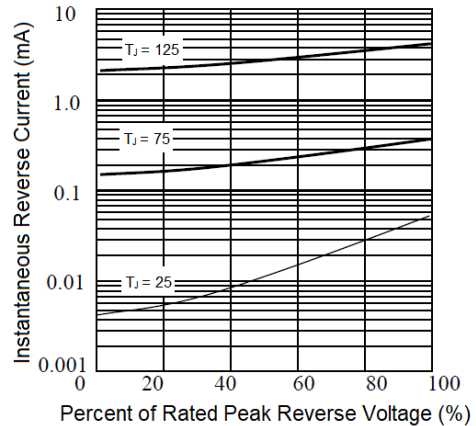
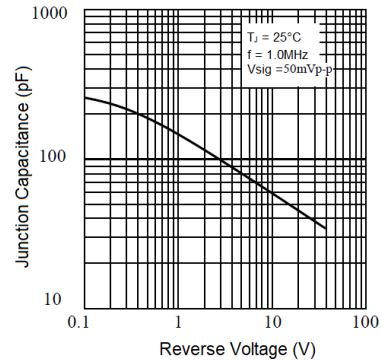


Figure 6. Typical Junction Capacitance

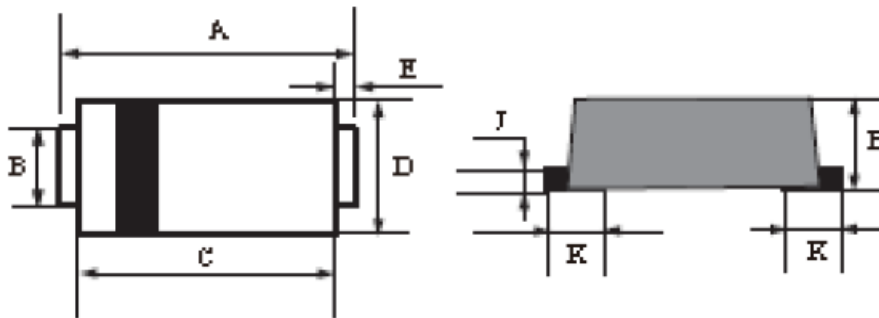




PACKAGE INFORMATION

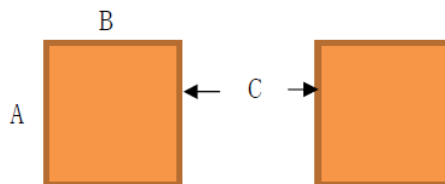
Dimension in SOD-123FL (Unit: mm)

Plastic Surface mounted package; 2 leads



DIM	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	3.50	3.90	0.138	0.159
B	0.75	0.95	0.029	0.037
C	2.60	3.00	0.103	0.119
D	1.60	2.00	0.063	0.079
E	0.45 TYP.		0.018 TYP.	
H	0.90	1.20	0.036	0.047
J	0.12	0.22	0.005	0.009
K	0.80 TYP.		0.032 TYP.	

Suggested solder pad layout



Dimensions in inches and (millimeters)

Package	A	B	C
SOD-123FL	0.044(1.10)	0.040(1.00)	0.079(2.00)



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