



DESCRIPTION

The MBR120F~MBR1200F are available in SOD-123FL package.

ORDERING INFORMATION

Package Type	Part Number
SOD-123FL	MBR120F
	MBR140F
	MBR160F
	MBR180F
	MBR1100F
	MBR1120F
	MBR1150F
	MBR1200F
Note	SPQ: 3,000pcs/ Reel
AiT provides all RoHS Compliant Products	

FEATURES

- Metal silicon junction, majority carrier conduction
- 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
- Available in SOD-123FL package

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Parameter Symbol	Symbol	MBR 120F	MBR 140F	MBR 160F	MBR 180F	MBR 1100F	MBR 1120F	MBR 1150F	MBR 1200F	Unit	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	40	60	80	100	120	150	200	V	
Maximum RMS Voltage	V_{RMS}	14	28	42	56	80	100	105	140	V	
Maximum DC Blocking Voltage	V_{DC}	20	40	60	80	100	120	150	200	V	
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0								A	
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed On Rated Load (JEDEC Method)	I_{FSM}	40				25				A	
Max Instantaneous Forward Voltage at 1A	V_F	0.55		0.70		0.85		0.90		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_A=25^\circ\text{C}$		0.3		0.2		0.1		mA	
		$T_A=100^\circ\text{C}$		10		5		2			
Typical Junction Capacitance ^{NOTE1}	C_J	110		80						pF	
Typical Thermal Resistance ^{NOTE2}	$R_{\theta JA}$	115									°C/W
Operating Junction Temperature Range	T_J	-55 to +125									°C
Storage Temperature Range	T_{STG}	-55 to +150									°C

NOTE1: Measured at 1MHz and applied reverse voltage of 4V D.C

NOTE2: P.C.B. mounted with 0.2x0.2" (5x5 mm) copper pad areas.



TYPICAL CHARACTERISTICS

Figure 1. Forward Current Derating Curve

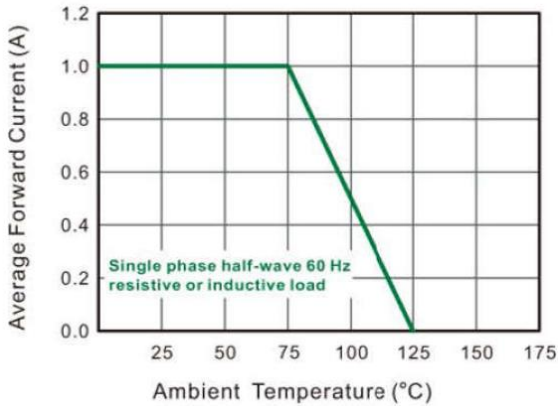


Figure 2. Typical Reverse Characteristics

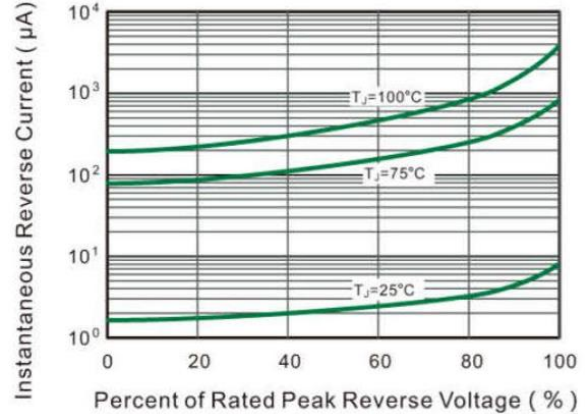


Figure 3. Typical Forward Characteristic

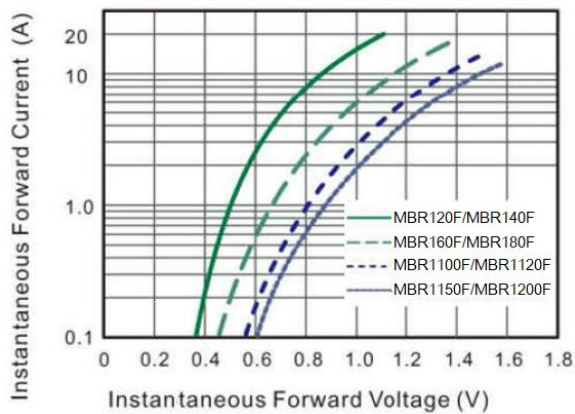


Figure 4. Typical Junction Capacitance

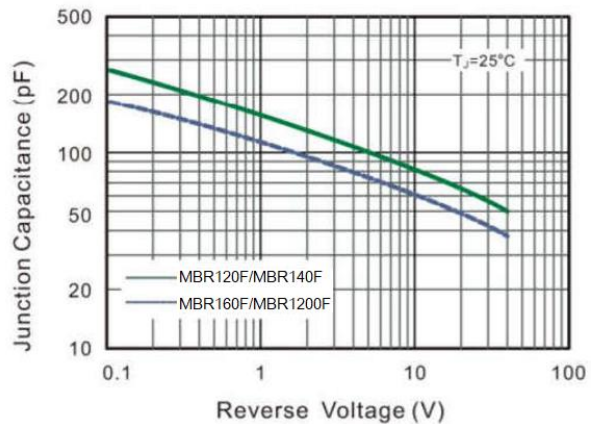


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

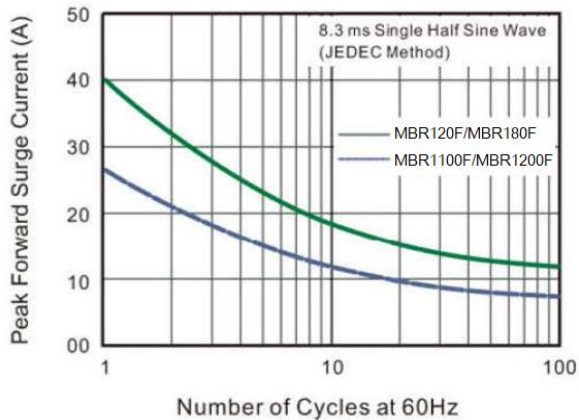
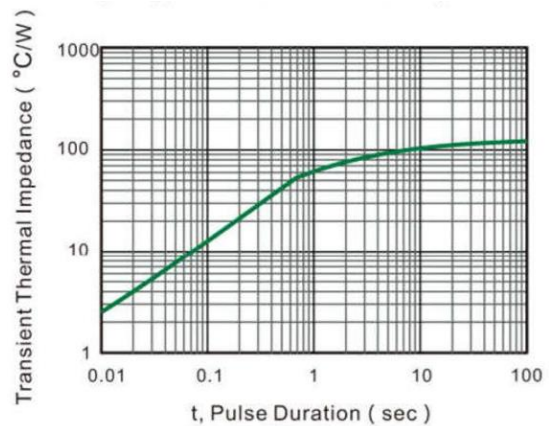


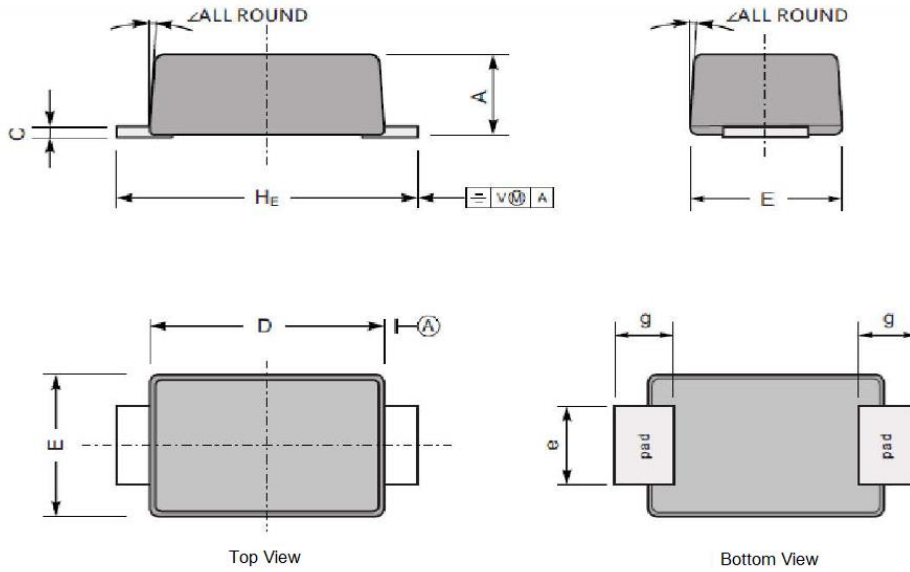
Figure 6. Typical Transient Thermal Impedance



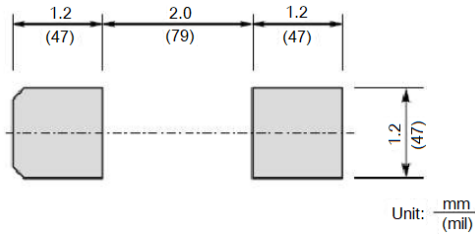


PACKAGE INFORMATION

Dimension in SOD-123FL Package (Unit: mm)



The recommended mounting pad size



UNIT		A	C	D	E	e	g	HE	\angle
mm	Max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	Min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	Max	43	7.9	114	75	43	35	150	
	Min	35	4.7	102	67	31	28	138	



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