



DESCRIPTION

The MBR0520E~MBR0540E are available in SOD-323HE Package.

ORDERING INFORMATION

Package Type	Part Number
SOD-323HE	MBR0520E
	MBR0530E
	MBR0540E
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

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
- Guarding for over voltage protection
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Available in SOD-323HE Package

MECHANICAL DATA

Case: SOD-323HE

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: 0.0053g

Handling precaution: None

PIN DESCRIPTION





ELECTRICAL CHARACTERISTIC

at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MBR0520E	MBR0530E	MBR0540E	Unit
Maximum & Thermal Characteristics Ratings					
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	V
Maximum RMS Voltage	V_{RMS}	14	21	28	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	V
Maximum Average Forward Rectified Current at $T_C = 75^\circ\text{C}$	$I_{F(AV)}$	0.5			A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	22			A
Typical Thermal Resistance ^{NOTE1}	$R_{\theta JA}$	210			°C/W
	$R_{\theta JL}$	70			
Operating Junction Temperature Range	T_J	-55 ~ +125			°C
Storage Temperature Range	T_{STG}	-55 ~ +150			°C
Electrical Characteristics Ratings					
Maximum Instantaneous Forward Voltage at ($I_F = 0.5\text{A}$, $T_J = 25^\circ\text{C}$)	V_F	0.43	0.45	0.55	V
Maximum DC Reverse Current At Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$ $T_J = 100^\circ\text{C}$	I_R	0.25	0.130	0.03	mA
		8	10	10	
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

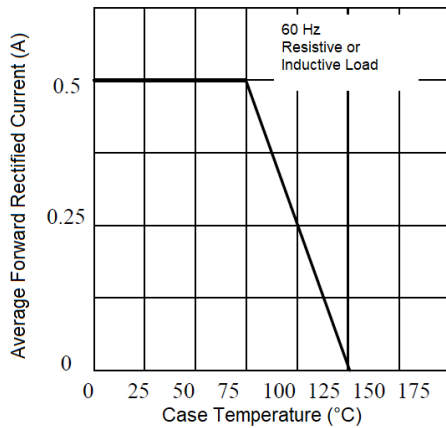


Figure 3. Typical Instantaneous Forward Characteristics

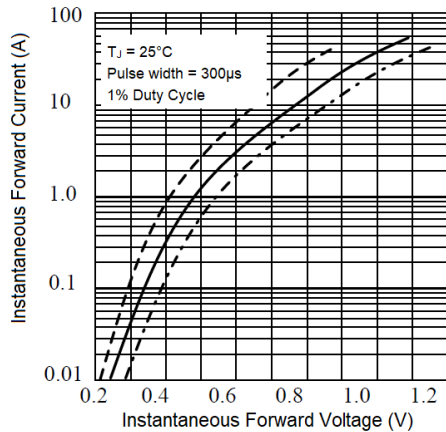


Figure 5. Typical Transient Thermal Impedance

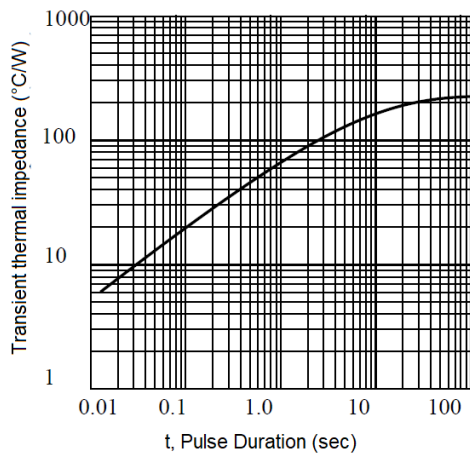


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

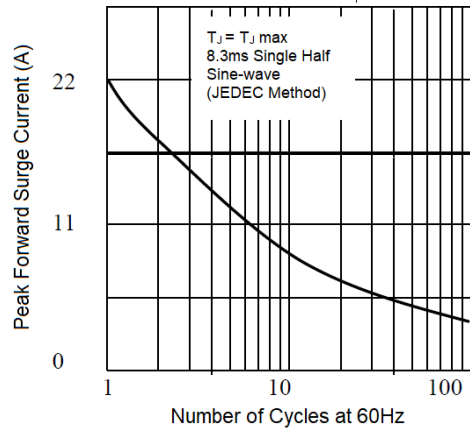


Figure 4. Typical Reverse Characteristics

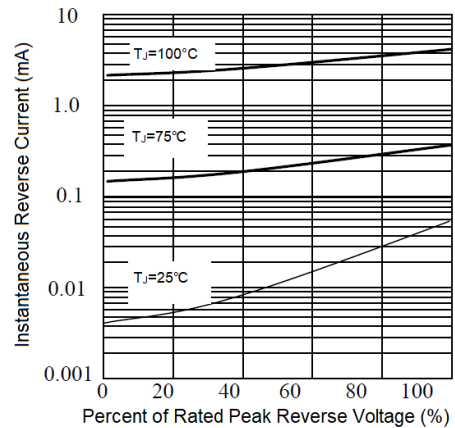
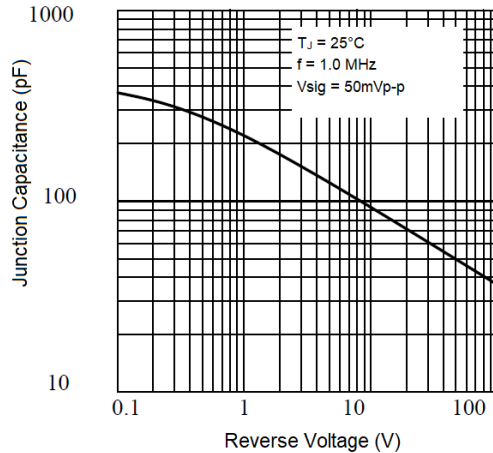


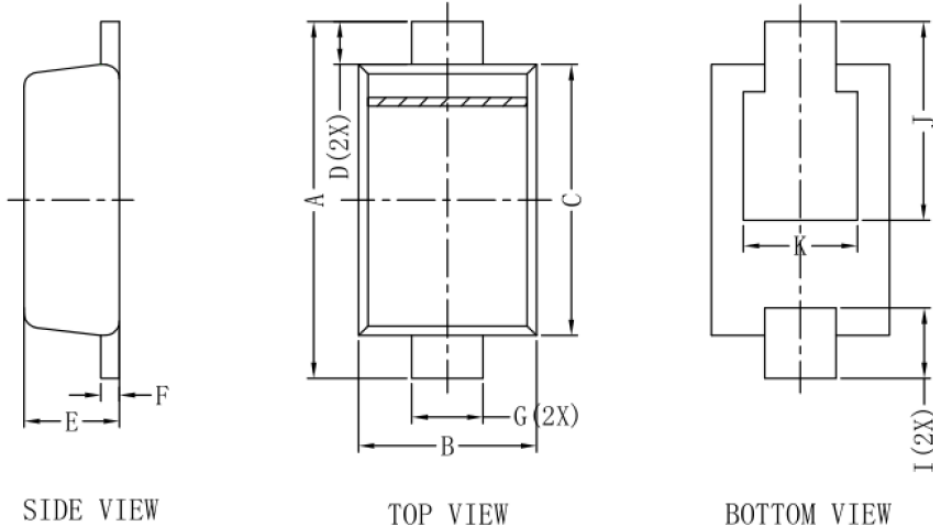
Figure 6. Typical Junction Capacitance





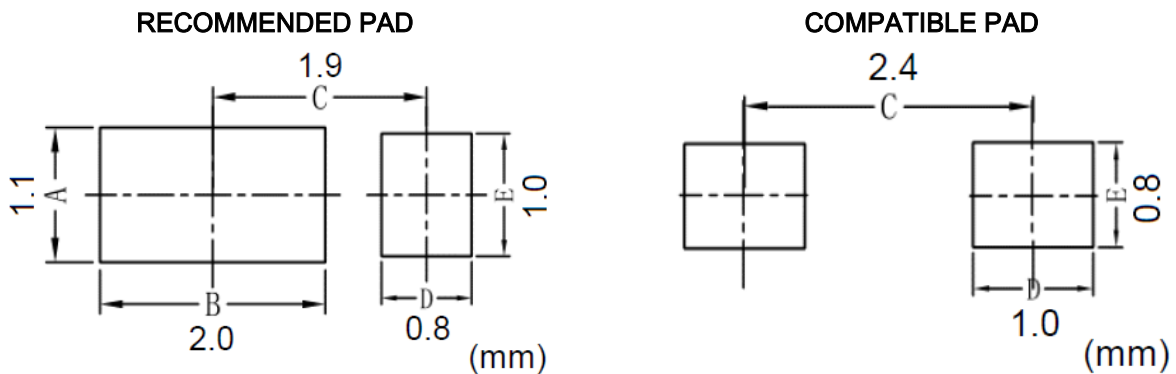
PACKAGE INFORMATION

Dimension in SOD-323HE Package (Unit: mm)



DIM	MIN	MAX
A	2.30	2.70
B	1.20	1.35
C	1.75	1.95
D	0.30TYP	
E	0.55	0.75
F	0.10	0.20
G	0.45	0.65
I	0.40	0.70
J	1.15	1.55
K	0.8TYP	

Suggested solder pad layout





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