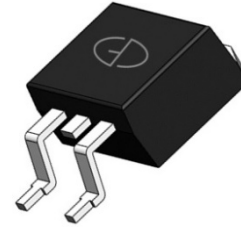


40A,250V Schottky Barrier Rectifier

Features

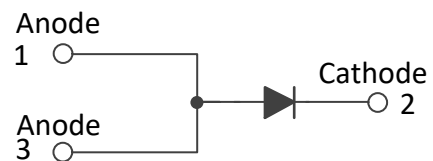
- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has underwriters Laboratory
Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



TO-263AB(D²PAK)

Applications

- SMPS
- Adapter
- Server Power



Mechanical Data

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 50 units per plastic tube or tape reel packing 800/reel

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	MBRB40250S	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	250	V
Maximum RMS voltage	V _{RMS}	175	V
Maximum DC blocking voltage	V _{DC}	250	V
Maximum average forward	I _{F(AV)}	40	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	180	A
Operating junction temperature range	T _J	-55 to +150	°C
Storage temperature range	T _{STG}	-55 to +150	°C

Electrical Specifications ($T_A=25^{\circ}\text{C}$ unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage (Note1)	V_F	$I_F=20\text{A}, T_J=25^{\circ}\text{C}$	0.83	0.9	V
		$I_F=20\text{A}, T_J=125^{\circ}\text{C}$	0.7	0.78	
		$I_F=40\text{A}, T_J=25^{\circ}\text{C}$	-	-	
		$I_F=40\text{A}, T_J=125^{\circ}\text{C}$	-	-	
Reverse leakage current @VR (Note2)	I_R	$T_J=25^{\circ}\text{C}$	-	100	μA
		$T_J=100^{\circ}\text{C}$	-	10	mA

Thermal-Mechanical Specifications ($T_A=25^{\circ}\text{C}$ unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.0	$^{\circ}\text{C}/\text{W}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	$^{\circ}\text{C}/\text{W}$

Note:

1. Pulse test with $PW=0.3\text{ms}$, duty cycle=2%
2. Pulse test with $PW=30\text{ms}$

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

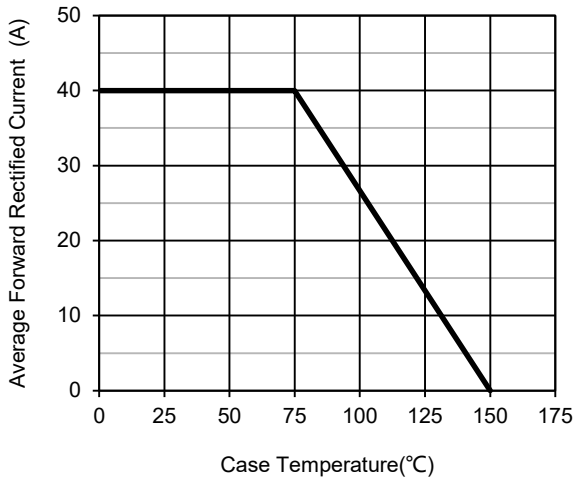


Fig.1 – Forward Current Derating Curve

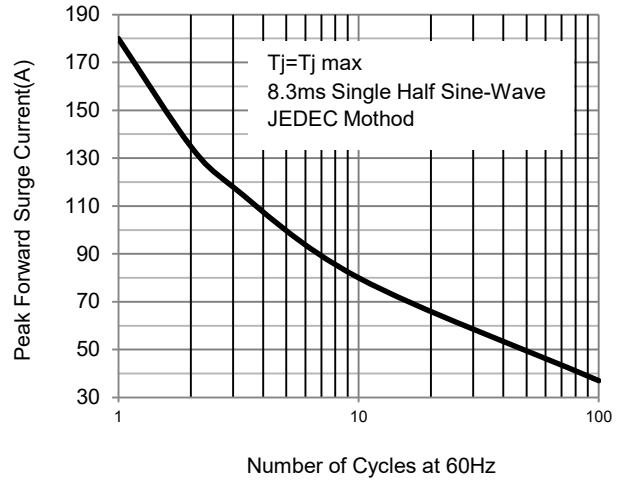


Fig.2 – Maximum Non-Repetitive Surge Current

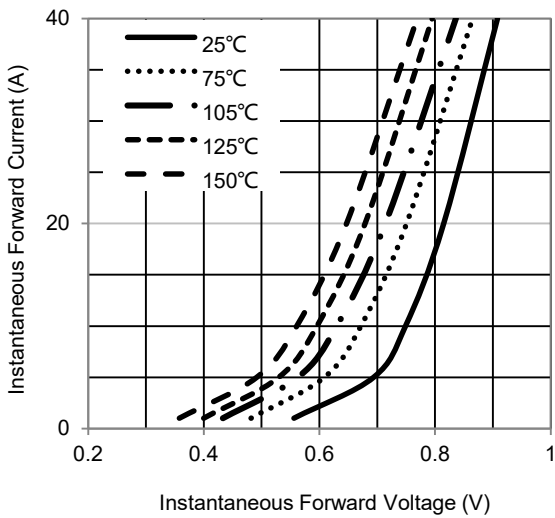


Fig.3 – Typical Forward Voltage Characteristics

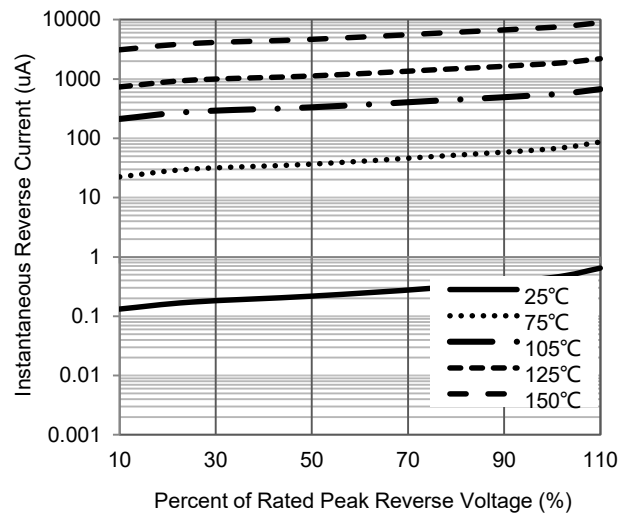


Fig.4 – Typical Reverse Current Characteristics

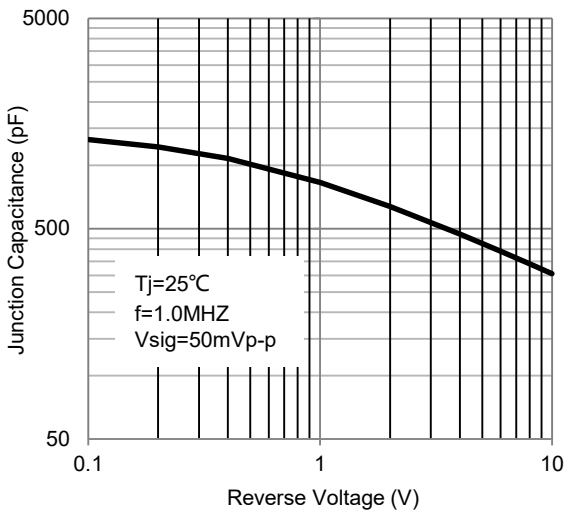
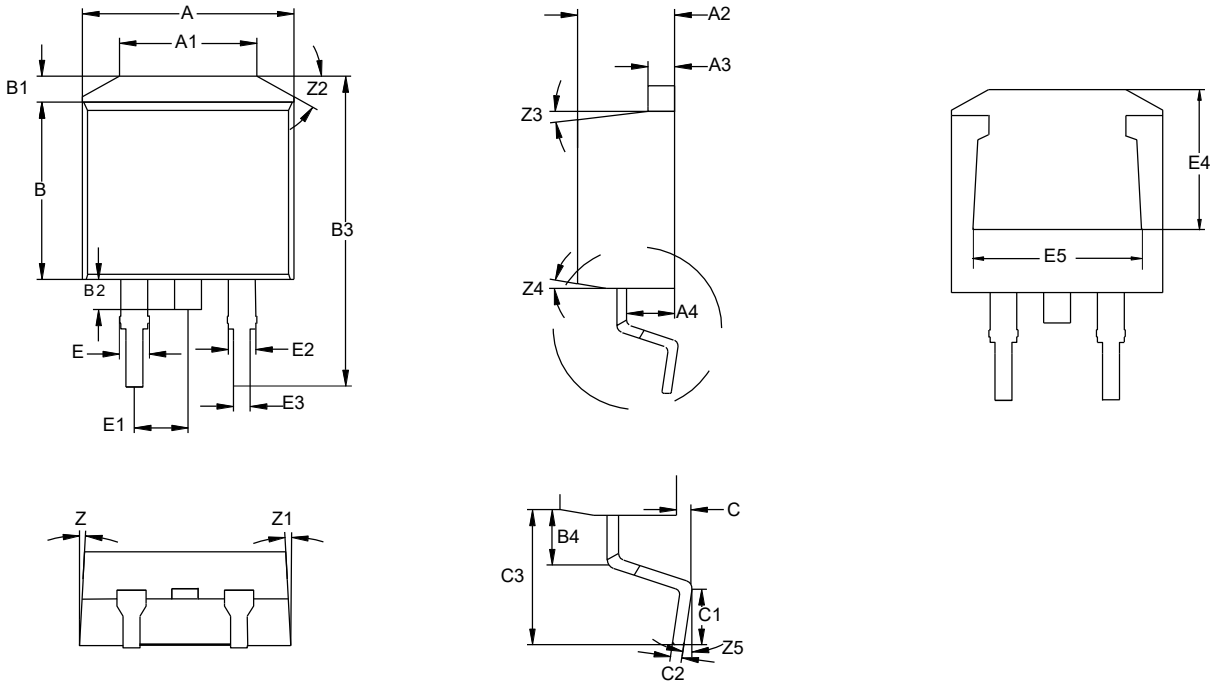


Fig.5 – Typical Junction Capacitance

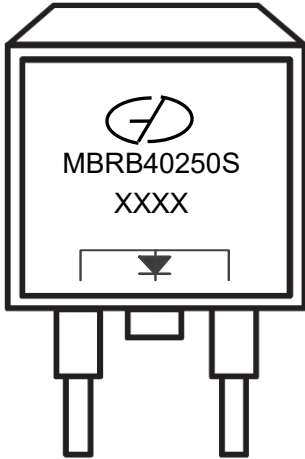
Package Outline Dimensions (Unit: millimeters)



TO-263AB



TO-263AB							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	9.8	10	10.2	C3	5	5.3	5.6
A1	6.5			E	1.17	1.37	1.57
A2	4.4	4.6	4.8	E1	2.44	2.54	2.64
A3	1.17	1.27	1.37	E2	1.17	1.27	1.37
A4	2.37	2.67	2.97	E3	0.7	0.8	0.9
B	8.5	8.7	8.9	E4	6.47	6.67	6.87
B1	1.07	1.27	1.47	E5	8.3	8.5	8.7
B2	1.2	1.5	1.8	Z		3°	
B3	15	15.3	15.6	Z1		3°	
B4	1.8	2	2.2	Z2		30°	
C	0		0.25	Z3		7°	
C1	2.34	2.54	2.74	Z4		7°	
C2	0.3	0.4	0.5	Z5	-4°		4°

Marking Outline



1. Logo Mark: 
2. Part Name: MBRB40250S
3. Date Code: XXXX
4. Polarity : 

Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.09	Preliminary Datasheet

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