FEATURES

The MBRD540 _ MBRD5200 is available in TO-252 Package

- Schottky Barrier Chip
- Low forward voltage drops
- Low power loss, high efficiency
- High surge current capability
- High temperature soldering guaranteed

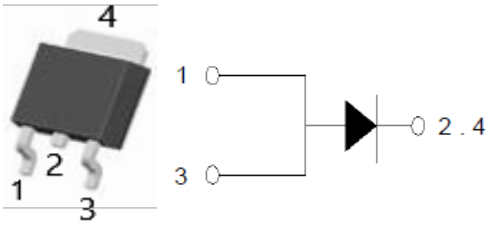
MECHANICAL DATA

- Case: DPAK/ TO-252
- Weight: 0.3 grams (approx.)
- Mounting Position: Any
- Terminals: Plated Leads Solderable per MIL-STD-202, Method208.

ORDERING INFORMATION

Package Type	Part Number
TO-252	MBRD540
	MBRD545
	MBRD560
	MBRD5100
	MBRD5150
	MBRD5200
SPQ	2,500pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



Pin #	Description
1	Anode
2	Cathode
3	Anode
4	Cathode

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

Parameter	Symbols	MBRD540	MBRD545	MBRD560	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	40	45	60	V
Maximum RMS voltage	V_{RMS}	28	31.5	42	V
Maximum DC Blocking Voltage	V_{DC}	40	45	60	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5.0			A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Super imposed on Rated Load (JEDEC method)	I_{FSM}	150			A
Maximum Forward Voltage at 5.0A DC	V_F	0.60		0.70	V
Maximum DC Reverse Current J= 25°C at Rated DC Blocking Voltage J =125°C	I_R	0.5 20			mA
Typical Junction Capacitance Per Element(1)	C_j	600		400	pF
Typical Thermal Resistance (2)	$R_{\theta JA}$	35			°C/W
Operating Temperature Range	T_j	-55 to +150			°C
Storage Temperature Range	T_{stg}	-55 to +150			°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

(1) Measured at 1.0MHz and applied reverse voltage of 4.0 V D.C.

(2) Mounted on 10cm x 10cm x 1mm copper pad area

Parameter	Symbols	MBRD5100	MBRD5150	MBRD5200	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	100	150	200	V
Maximum RMS voltage	V_{RMS}	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	100	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5.0			A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Super imposed on Rated Load (JEDEC method)	I_{FSM}	150			A
Maximum Forward Voltage at 5.0A DC	V_F	0.85	0.90	0.92	V
Maximum DC Reverse Current J= 25°C at Rated DC Blocking Voltage J =125°C	I_R	0.5 20			mA
Typical Junction Capacitance Per Element(1)	C_j	400			pF
Typical Thermal Resistance (2)	$R_{\theta JA}$	35			°C/W
Operating Temperature Range	T_j	-55 to +150			°C
Storage Temperature Range	T_{stg}	-55 to +150			°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

(1)Measured at 1.0MHz and applied reverse voltage of 4.0 V D.C.

(2)Mounted on 10cm x 10cm x 1mm copper pad area

TYPICAL CHARACTERISTICS

Fig 1. TYPICAL FORWARD CURRENT DERATING CURVE

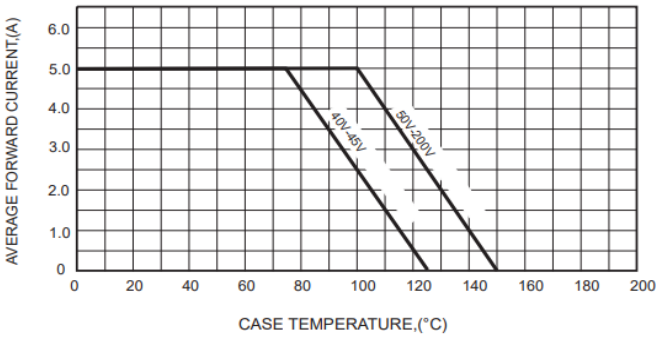


Fig 2. MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

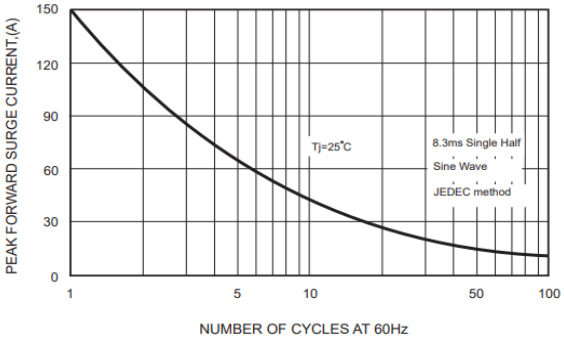


Fig 3. TYPICAL FORWARD CHARACTERISTICS

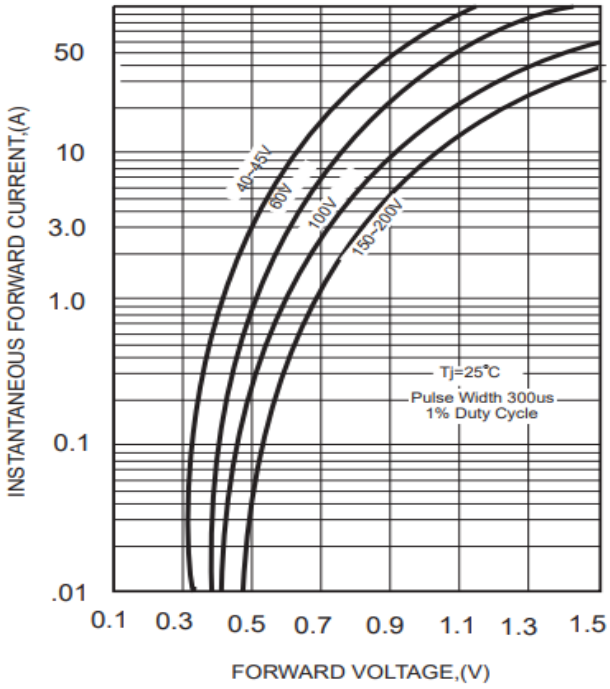
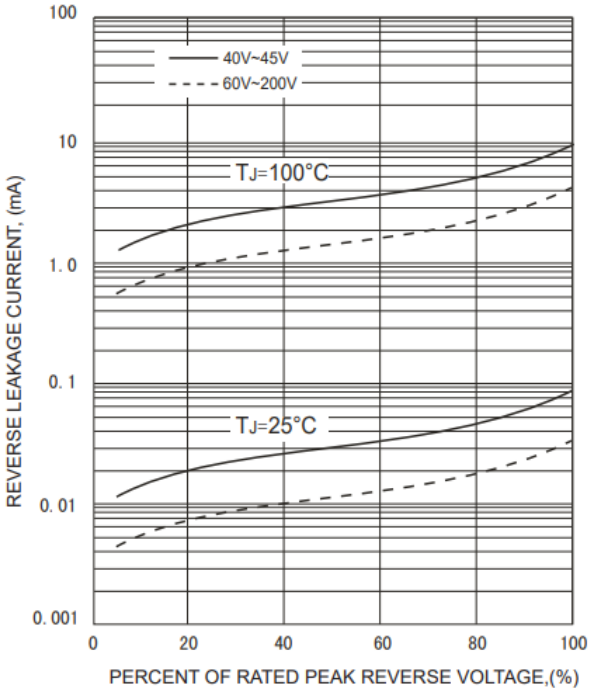
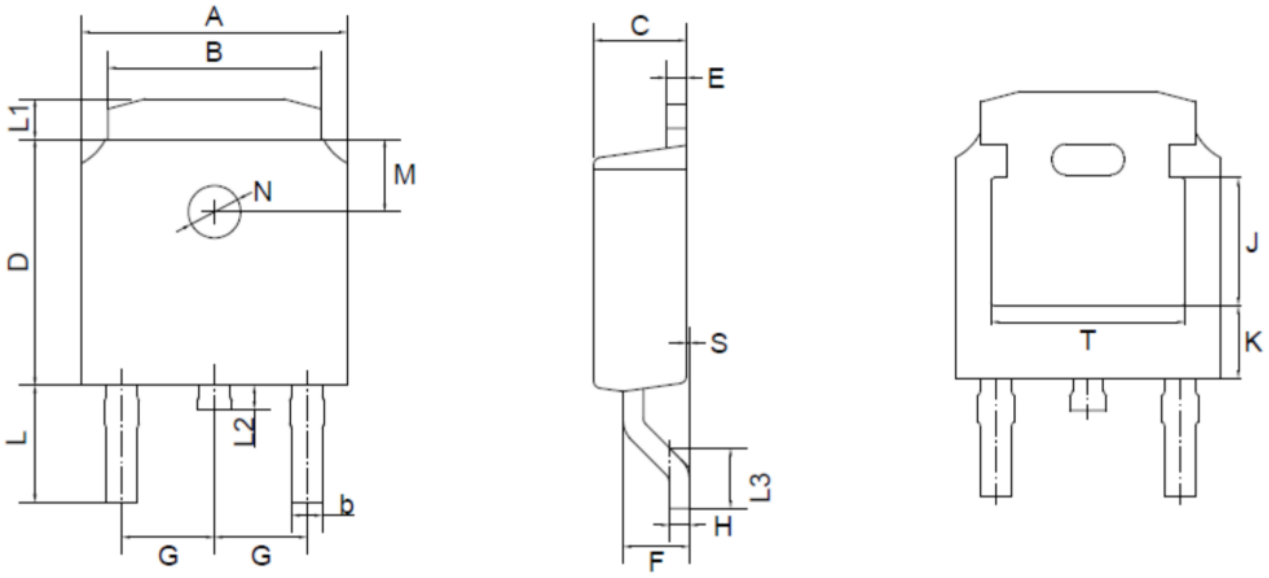


Fig 4. TYPICAL REVERSE CHARACTERISTICS



PACKAGE INFORMATION

Dimension in TO-252 (Unit: mm)



Symbol	Min	Max	Symbol	Min	Max
A	6.3	6.7	L1	0.8	1.2
B	5.1	5.5	L2	0.6	1.0
b	0.3	0.8	L3	1.40	1.75
C	2.1	2.5	S	0.0	0.1
D	5.9	6.3	M	1.8 TYPICAL	
E	0.4	0.6	N	1.3 TYPICAL	
F	1.3	1.8	J	3.16 ref.	
G	2.29TYPICAL		K	1.80 ref.	
H	0.45	0.55	L	4.83 ref.	
L	2.7	3.1			

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