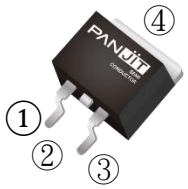
MBR5100YD-AU

Surface Mount Schottky Barrier Rectifier

Voltage	100 V	Current	5 A

TO-252AA



Features

- Low power loss, high efficiency
- High surge current capability
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : TO-252AA Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.3217 grams

Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	100	V
Maximum RMS Voltage		V_{RMS}	70	V
Maximum DC Blocking Voltage		V_{DC}	100	V
Maximum Average Forward Current		$I_{F(AV)}$	5	A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load		I_{FSM}	120	A
Typical Junction Capacitance Measured at 1 MHZ And Applied V_R = 4 V		C_J	135	pF
Typical Thermal Resistance	(Note 1) (Note 2) (Note 2)	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	50 5.3 3.9	°C/W
Operating Junction Temperature Range		T_J	-55~175	°C
Storage Temperature Range		T_{STG}	-55~175	°C

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	I_F = 1 A, T_J = 25 °C	-	0.66	0.71	V
		I_F = 3 A, T_J = 25 °C	-	0.75	0.79	V
		I_F = 5 A, T_J = 25 °C	-	0.78	0.8	V
		I_F = 1 A, T_J = 125 °C	-	0.52	0.57	V
		I_F = 3 A, T_J = 125 °C	-	0.6	0.65	V
		I_F = 5 A, T_J = 125 °C	-	0.65	0.7	V
Reverse Current(Note 3)	I_R	V_R = 80 V, T_J = 25 °C	-	19	200	nA
		V_R = 100 V, T_J = 25 °C	-	0.04	50	uA
		V_R = 100 V, T_J= 125 °C	-	26	300	

NOTES :

1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
2. Mounted on a FR4 PCB, single-sided copper, with 100 cm^2 copper pad area.
3. Short duration pulse test used to minimize self-heating effect.

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TYPICAL CHARACTERISTIC CURVES

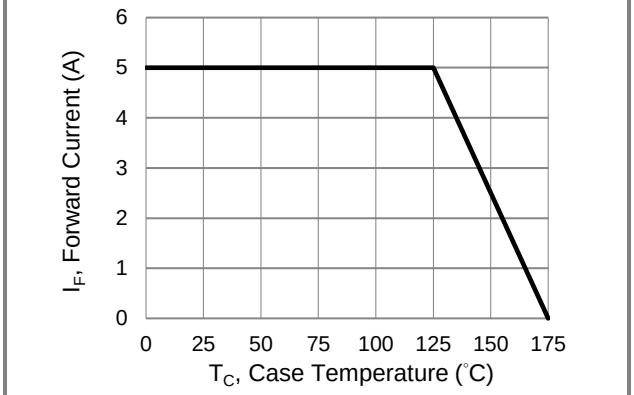

Fig.1 Forward Current Derating Curve

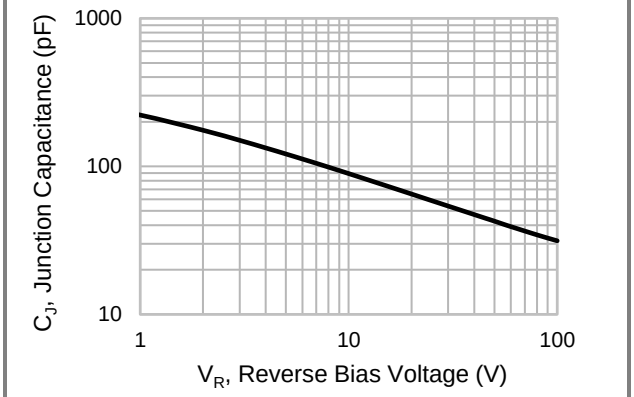

Fig.2 Typical Junction Capacitance

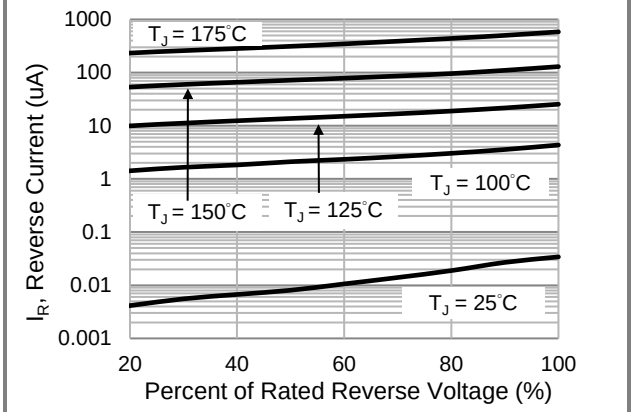

Fig.3 Typical Reverse Characteristics

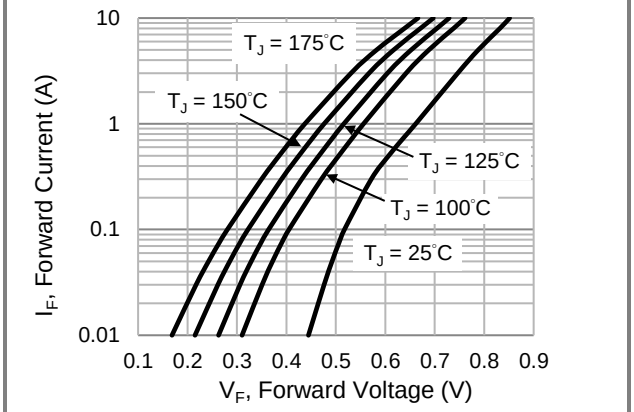

Fig.4 Typical Forward Characteristics

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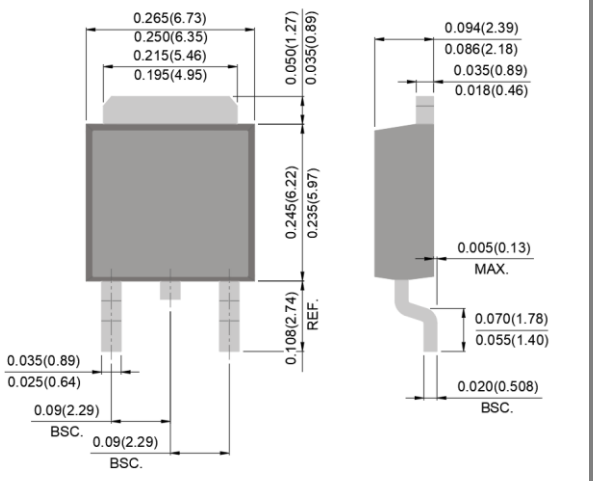
Product and Packing Information

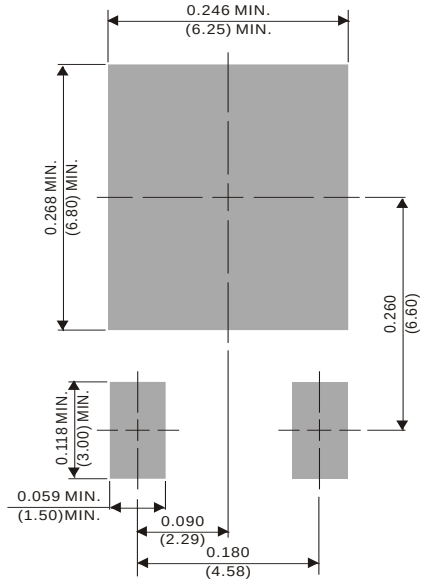
Part No.	Package Type	Packing Type	Marking
MBR5100YD-AU	TO-252AA	3K pcs / 13” reel	MBR5100Y

Packaging Information & Mounting Pad Layout

TO-252AA Dimension — Unit: inch(mm)



TO-252AA Pad Layout — Unit: inch(mm)



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