

MBR1045YD-AU

Surface Mount Schottky Barrier Rectifier

Voltage

45 V

Current

10 A

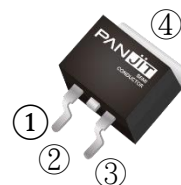
Features

- 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

TO-252AA



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

PARAMETER		SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage		V _{RRM}	45	V
Maximum RMS Voltage		V _{RMS}	32	V
Maximum DC Blocking Voltage		V _{DC}	45	V
Maximum Average Forward Current		I _{F(AV)}	10	A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load		I _{FSM}	185	A
Typical Junction Capacitance Measured at 1 MHZ And Applied V _R = 4 V		C _J	496	pF
Typical Thermal Resistance	(Note 1)	R _{θJA}	50	°C/W
	(Note 2)	R _{θJC}	4.1	
	(Note 2)	R _{θJL}	3.7	
Operating Junction Temperature Range		T _J	-55~175	°C
Storage Temperature Range		T _{STG}	-55~175	°C

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Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	0.4	0.45	V
		$I_F = 5\text{ A}, T_J = 25^\circ\text{C}$	-	0.48	0.53	
		$I_F = 10\text{ A}, T_J = 25^\circ\text{C}$	-	0.55	0.6	
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.27	0.32	
		$I_F = 5\text{ A}, T_J = 125^\circ\text{C}$	-	0.4	0.45	
		$I_F = 10\text{ A}, T_J = 125^\circ\text{C}$	-	0.5	0.55	
Reverse Current ^(Note 3)	I_R	$V_R = 36\text{ V}, T_J = 25^\circ\text{C}$	-	3.7	40	μA
		$V_R = 45\text{ V}, T_J = 25^\circ\text{C}$	-	6.1	50	
		$V_R = 45\text{ V}, T_J = 125^\circ\text{C}$	-	4.9	50	mA

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

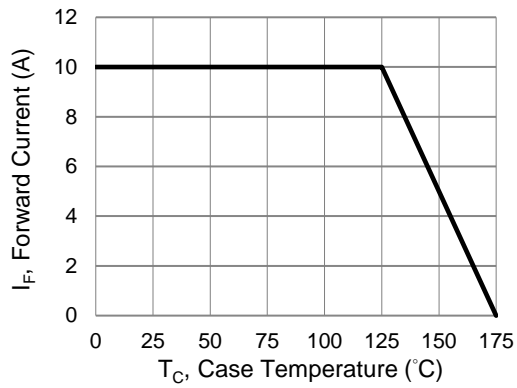


Fig.1 Forward Current Derating Curve

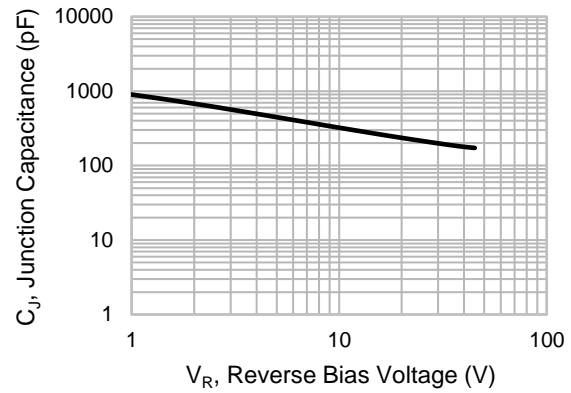


Fig.2 Typical Junction Capacitance

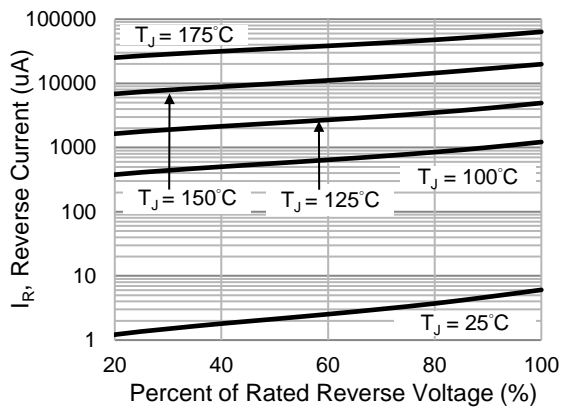


Fig.3 Typical Reverse Characteristics

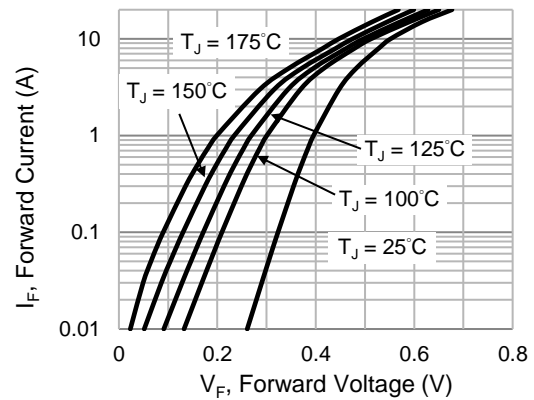


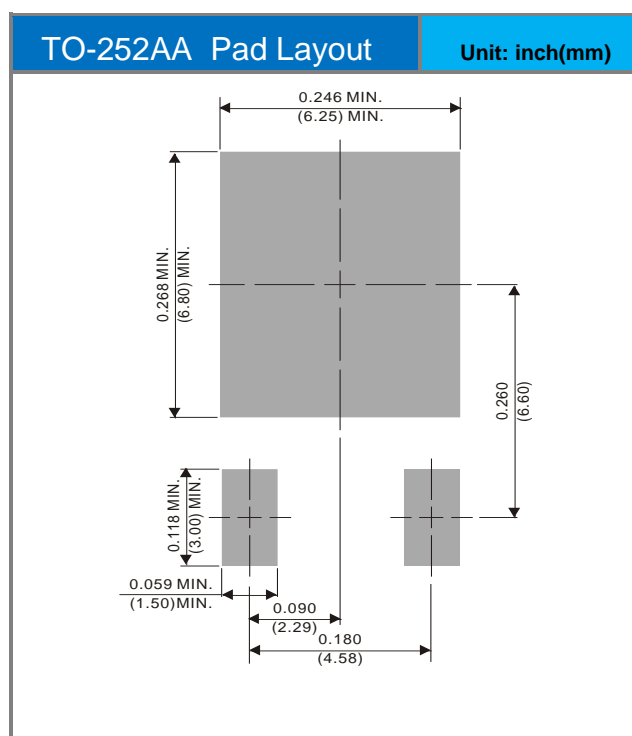
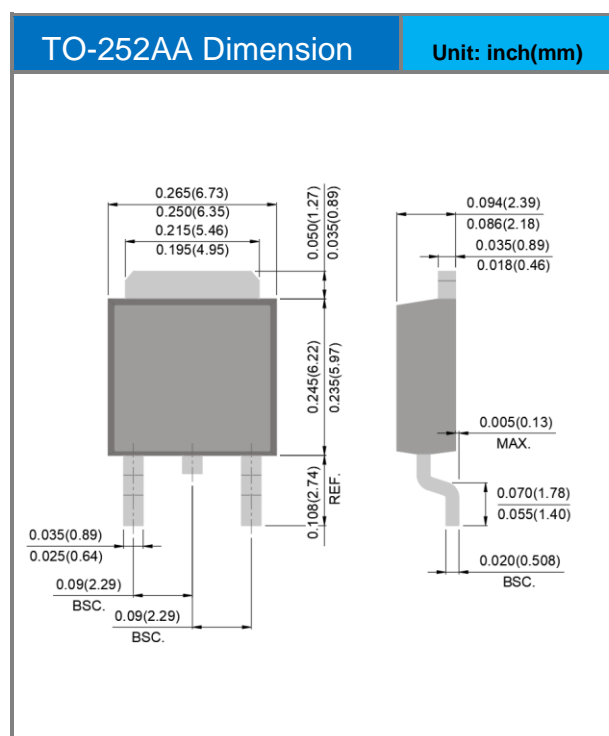
Fig.4 Typical Forward Characteristics

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
MBR1045YD-AU	TO-252AA	3K pcs / 13" reel	MBR1045Y

Packaging Information & Mounting Pad Layout



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