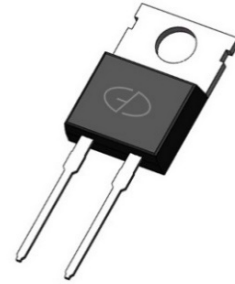


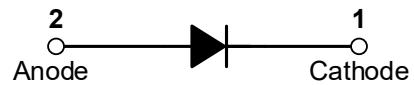
10A,45V Schottky Barrier Rectifier

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-220AC



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

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

Parameter	Symbol	MBR1045	Unit
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	I _{F(AV)}	10	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diodes	I _{FSM}	150	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°C unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage ^(Note1)	V _F	I _F =10A, T _J =25°C	0.53	0.57	V
		I _F =10A, T _J =125°C	-	0.51	
Reverse leakage current @V _R ^(Note2)	I _R	T _J =25°C	-	200	uA
		T _J =100°C	-	15	mA

Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Case	R _{θJC}	2.0	°C /W
Thermal Resistance, Junction to Ambient	R _{θJA}	62.5	°C /W

Note:

1. Pulse test with PW=0.3ms, duty cycle=2%
2. Pulse test with PW=30ms

Ratings and Characteristics Curves

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

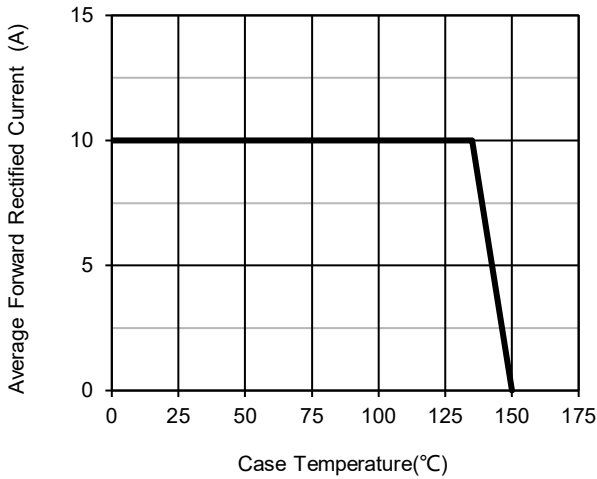


Fig.1 – Forward Current Derating Curve

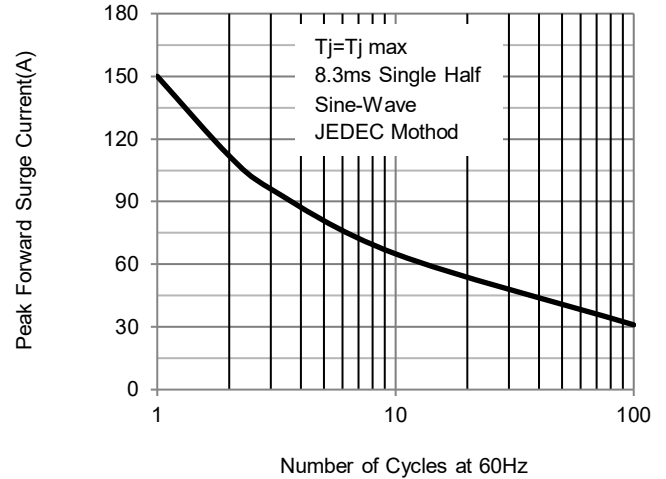


Fig.2 – Maximum Non-Repetitive Surge Current

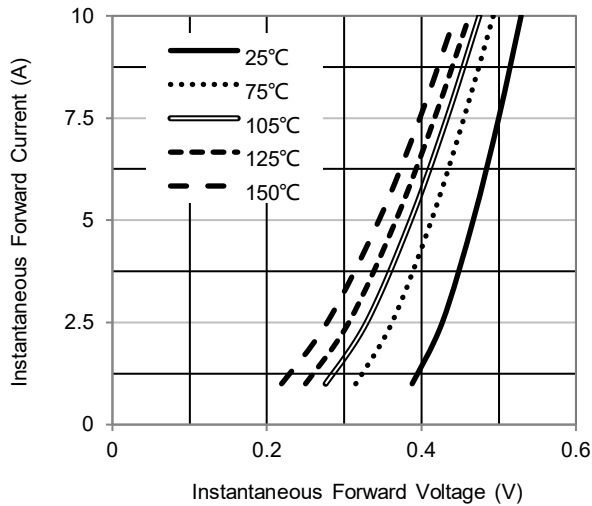


Fig.3 – Typical Forward Voltage Characteristics

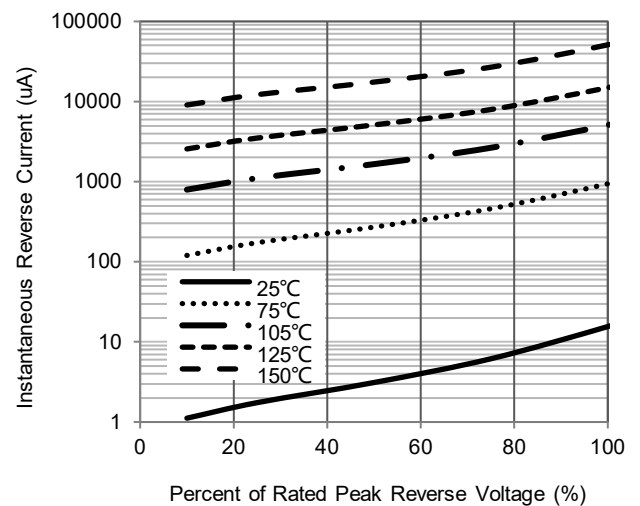


Fig.4 – Typical Reverse Current Characteristics

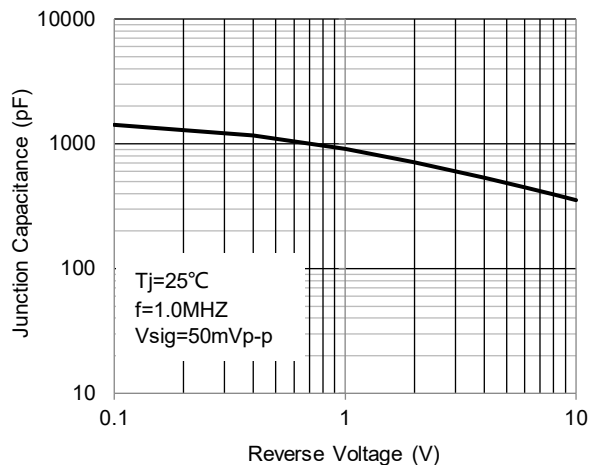
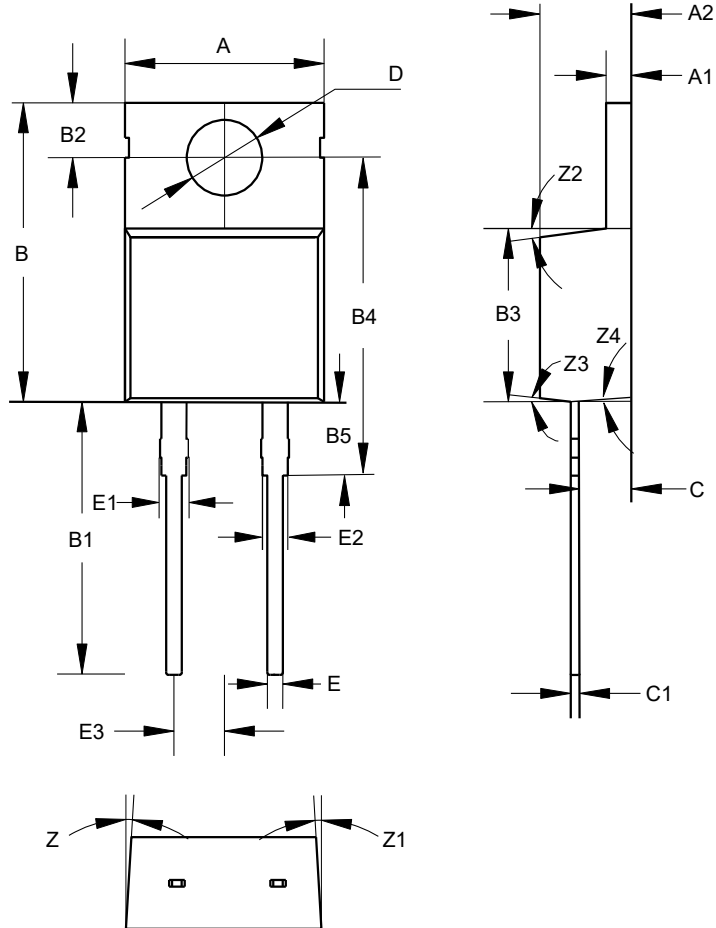


Fig.5 – Typical Junction Capacitance

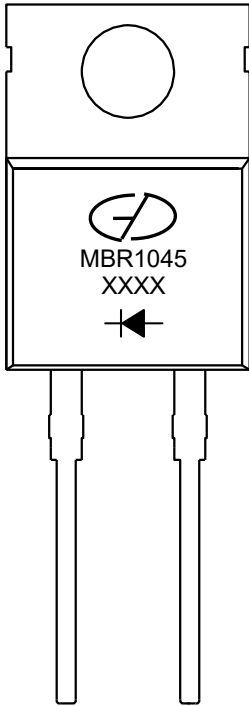
Package Outline Dimensions (Unit: millimeters)



TO-220AC



TO-220AC							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	9.8	10	10.2	D	3.7	3.8	3.9
A1	1.17	1.27	1.37	E	0.68	0.78	0.88
A2	4.5	4.6	4.7	E1	1.2	1.4	1.6
B	14.5	15	15.5	E2	1.17	1.27	1.37
B1	13.2	13.7	14.2	E3	2.44	2.54	2.64
B2	2.65	2.75	2.85	Z		3°	
B3	8.5	8.7	8.9	Z1		3°	
B4	15.5	16	16.5	Z2		7°	
B5	3.4	3.7	4.0	Z3		7°	
C	2.3	2.6	2.9	Z4		1.5°	
C1	0.28	0.38	0.48				

Marking Outline



- | | |
|----|----------------------------------------------------------------------------------------------|
| 1. | Logo Mark:  |
| 2. | Part Name: MBR1045 |
| 3. | Date Code: XXXX |
| 4. | Polarity :  |

Revision History

Document Version	Date of release	Description of changes
Rev.A	2015.12.15	Released Datasheet
Rev.B	2021.01.22	Modify document format
Rev.C	2022.04.29	Modify ratings and characteristics curves

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