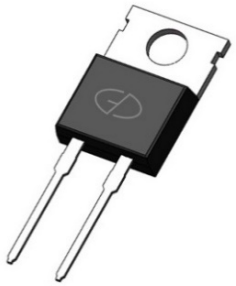
5A,45V Schottky Barrier Rectifier

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



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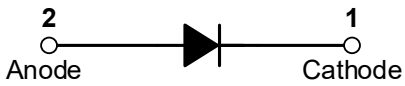

Applications

- 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℃ unless otherwise noted)

Parameter	Symbol	MBR545	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	$I_{F(AV)}$	5	A
Peak forward surge current,8.3ms single half sine-wave superimposed on rated load per diodes	I_{FSM}	120	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℃ unless otherwise noted)					
Parameter	**Symbol**	**Test Conditions**	**Typ**	**Max**	**Unit**
Forward drop voltage (Note1)	V_F	I_F=5A, T_J =25℃	0.54	0.58	V
		I_F=5A, T_J =125℃	-	0.51	
Reverse leakage current @VR (Note2)	I_R	T_J =25℃	-	100	uA
		T_J =100℃	-	10	mA

Thermal-Mechanical Specifications (T_A=25℃ unless otherwise noted)			
Parameter	**Symbol**	**Typ**	**Unit**
Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.0	°C /W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	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℃ unless otherwise noted)

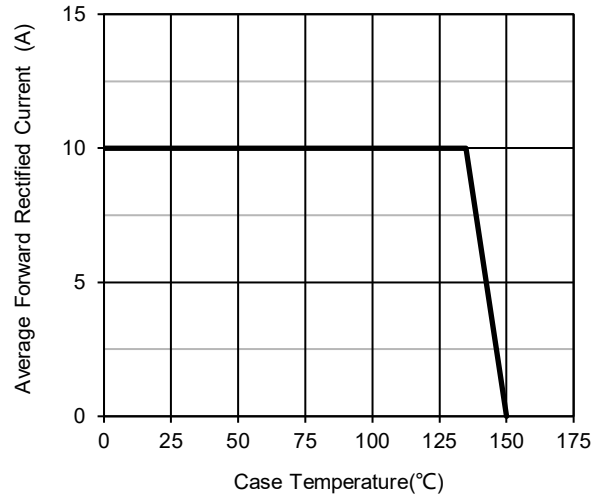

Fig.1 – Forward Current Derating Curve

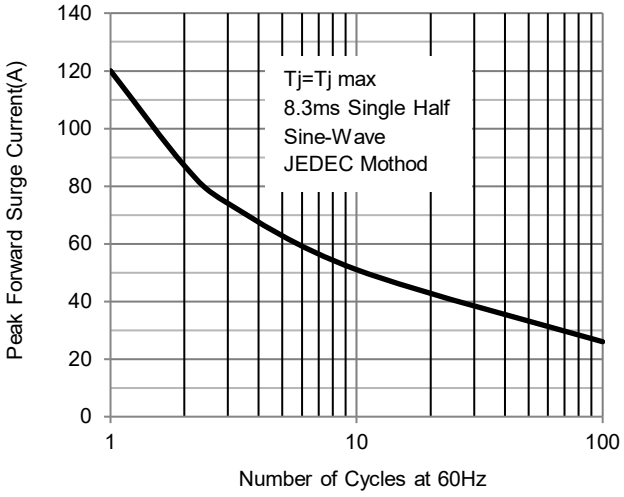

Fig.2 – Maximum Non-Repetitive Surge Current

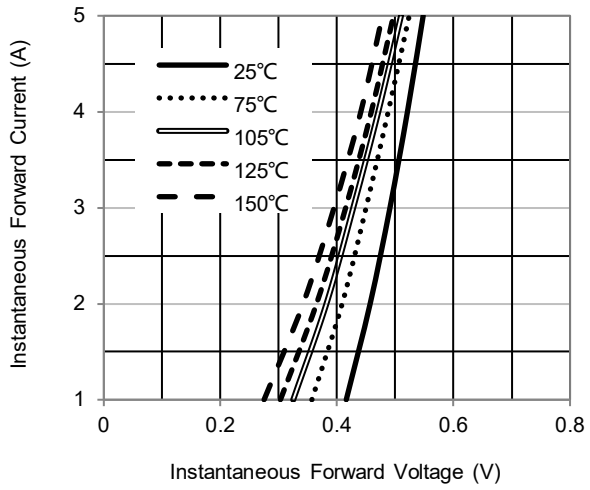

Fig.3 – Typical Forward Voltage Characteristics

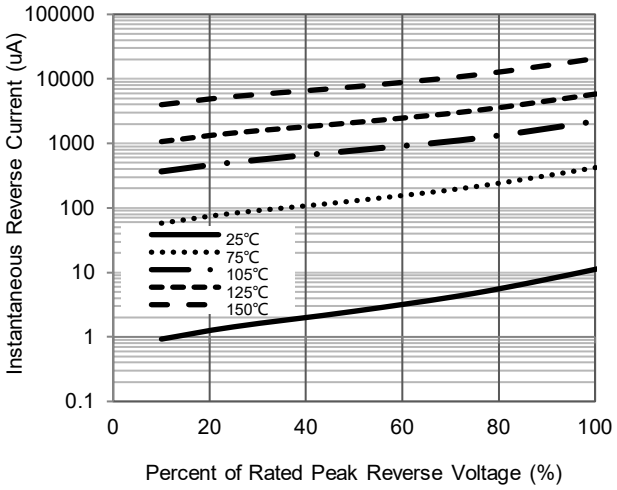

Fig.4 – Typical Reverse Current Characteristics

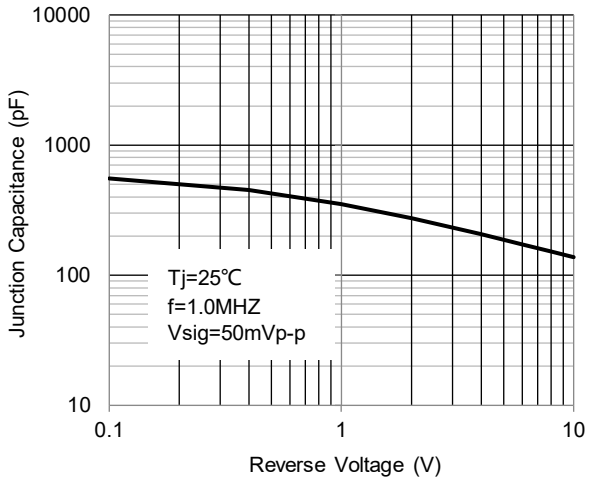

Fig.5 – Typical Junction Capacitance

Package Outline Dimensions (Unit: millimeters)

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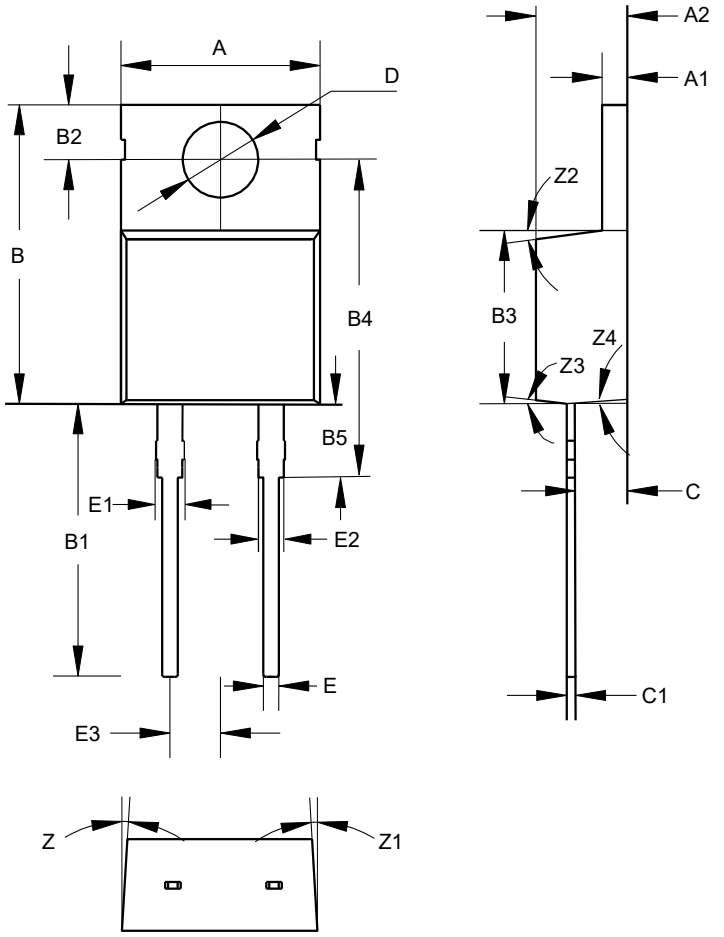
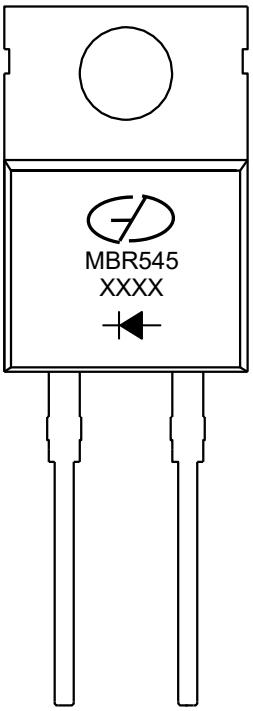


TO-220AC							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	9.8	10	10.2	D	3.7	3.8	3.9
A1	1.17	1.27	1.37	E	0.68	0.78	0.88
A2	4.5	4.6	4.7	E1	1.2	1.4	1.6
B	14.5	15	15.5	E2	1.17	1.27	1.37
B1	13.2	13.7	14.2	E3	2.44	2.54	2.64
B2	2.65	2.75	2.85	Z		3°	
B3	8.5	8.7	8.9	Z1		3°	
B4	15.5	16	16.5	Z2		7°	
B5	3.4	3.7	4.0	Z3		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: MBR545
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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