5A,45V Schottky Barrier Rectifier

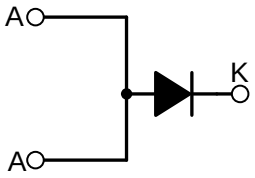
Features

- Low forward voltage, low power loss
- Guarding for over voltage protection
- Low leakage current
- High surge current
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21

TO-263(D^2PAK)

Applications

- SMPS
- Adapter
- Server Power



Mechanical Data

- Case: Epoxy, Molded
- Weight: 1.9grams（approximately）
- 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	MBRB545	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	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℃	-	0.55	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)

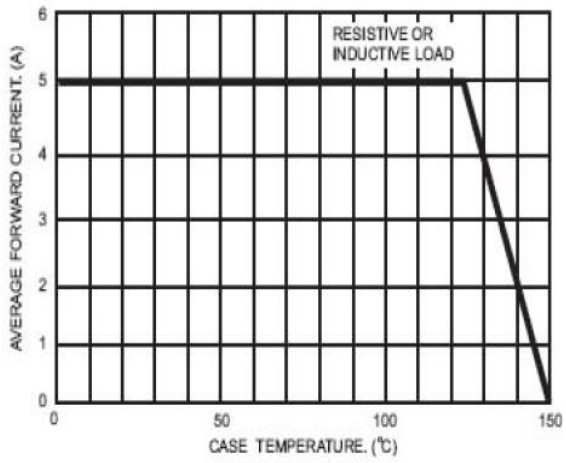


Fig.1 – Forward Current Derating Curve

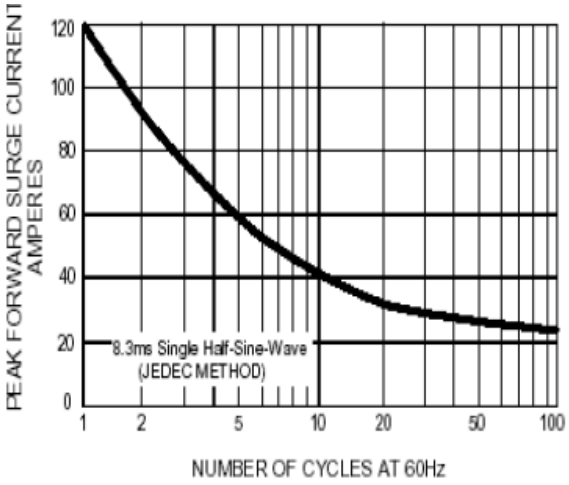


Fig.2 – Maximum Non-Repetitive Surge Current

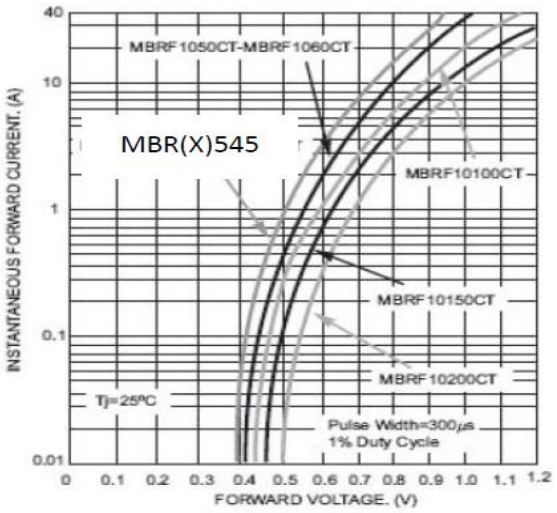


Fig.3 – Typical Forward Voltage Characteristics

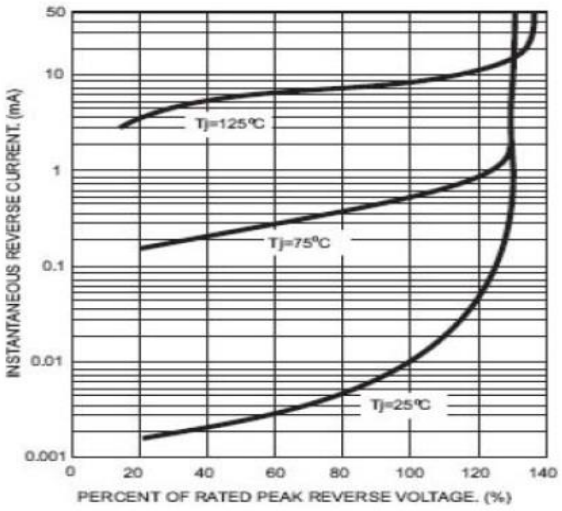


Fig.4 – Typical Reverse Current Characteristics

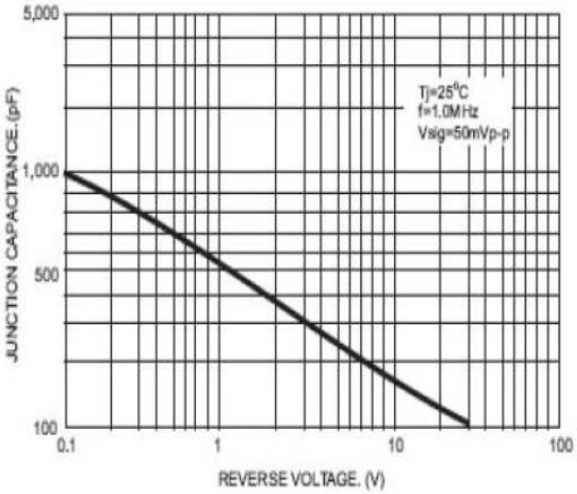
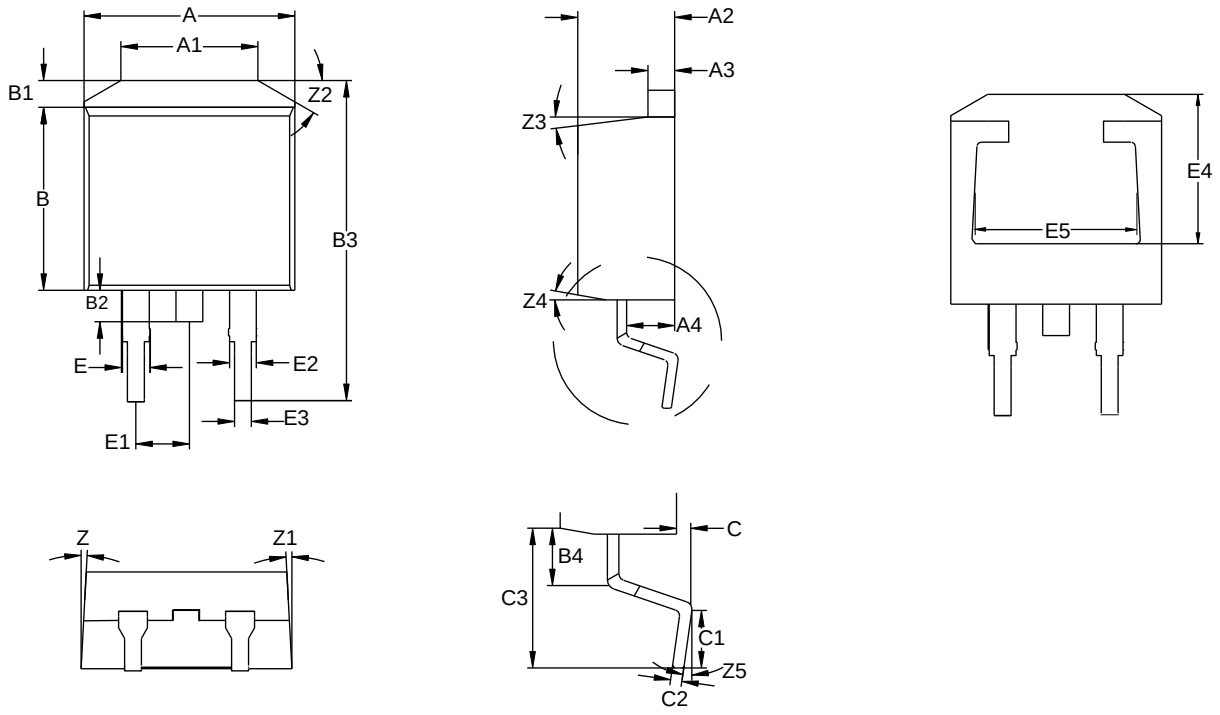


Fig.5 – Typical Junction Capacitance

Package Outline Dimensions (Unit: millimeters)

TO-263



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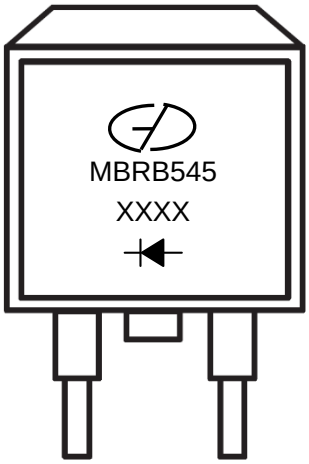
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	9.8	10	10.2	C3	5	5.3	5.6
A1	6.5			E	1.17	1.37	1.57
A2	4.4	4.6	4.8	E1	2.44	2.54	2.64
A3	1.17	1.27	1.37	E2	1.17	1.27	1.37
A4	2.37	2.67	2.97	E3	0.7	0.8	0.9
B	8.5	8.7	8.9	E4		7.1	
B1	1.07	1.27	1.47	E5		8.7	
B2	1.2	1.5	1.8	Z		3°	
B3	15	15.3	15.6	Z1		3°	
B4	1.8	2	2.2	Z2		30°	
C	0		0.25	Z3		7°	
C1	2.34	2.54	2.74	Z4		7°	
C2	0.3	0.45	0.6	Z5	0°		8°

Marking Outline



1. Logo Mark:
2. Part Name: MBRB545
3. Data Code: XXXX
4. Polarity :

Revision History

Document Version	Date of release	Description of changes
Rev.A	2015.12.18	Released Datasheet
Rev.B	2021.01.21	Modify document format

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