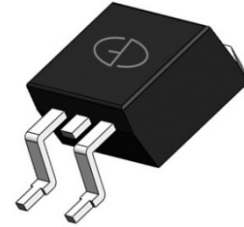


## 20A,45V Schottky Barrier Rectifier

### Features

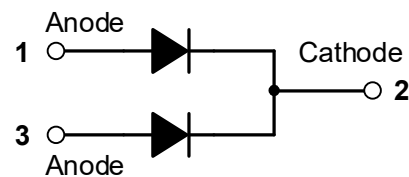
- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



TO-263AB(D<sup>2</sup>PAK)

### 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 or tape reel packing 800/reel

### Maximum Ratings & Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	MBRB2045CT	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	45	V
Maximum RMS voltage	V <sub>RMS</sub>	32	V
Maximum DC blocking voltage	V <sub>DC</sub>	45	V
Maximum average forward	I <sub>F(AV)</sub>	20	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	150	A
Operating junction temperature range	T <sub>J</sub>	-55 to +150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

<b>Electrical Specifications</b> ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage (Note1)	V <sub>F</sub>	I <sub>F</sub> =10A, T <sub>J</sub> =25°C	0.58	0.70	V
		I <sub>F</sub> =10A, T <sub>J</sub> =125°C	-	0.60	
		I <sub>F</sub> =20A, T <sub>J</sub> =25°C	-	-	
		I <sub>F</sub> =20A, T <sub>J</sub> =125°C	-	-	
Reverse leakage current @V <sub>R</sub> (Note2)	I <sub>R</sub>	T <sub>J</sub> =25°C	-	200	uA
		T <sub>J</sub> =100°C	-	15	mA

<b>Thermal-Mechanical Specifications</b> ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	2.0	°C/W
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	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

(TA = 25°C unless otherwise noted)

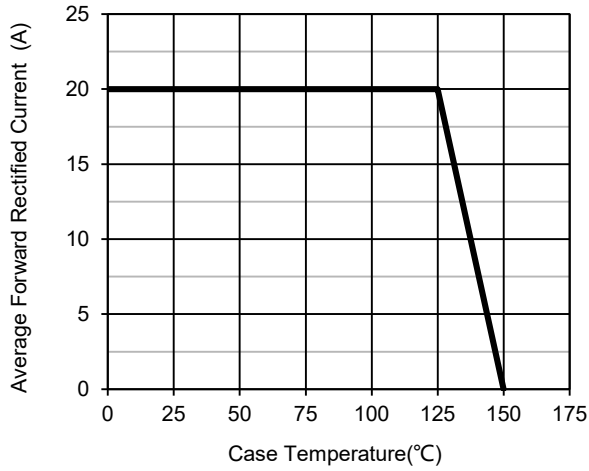


Fig.1 – Forward Current Derating Curve

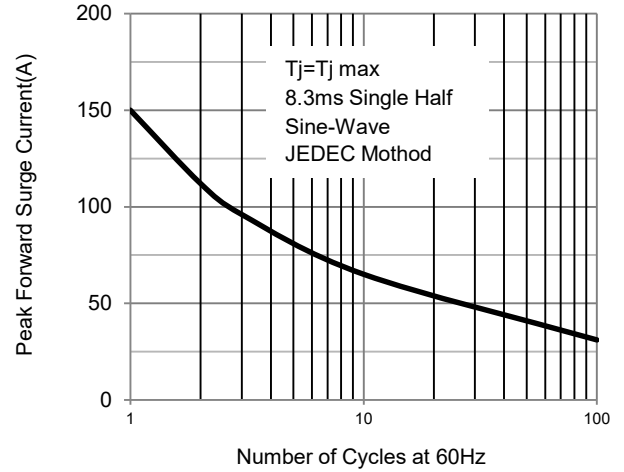


Fig.2 – Maximum Non-Repetitive Surge Current

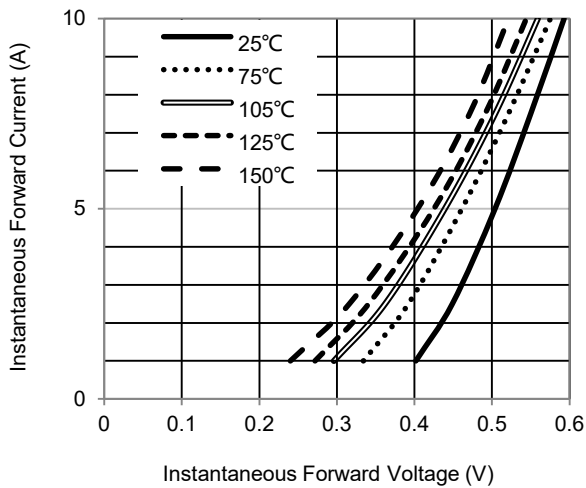


Fig.3 – Typical Forward Voltage Characteristics

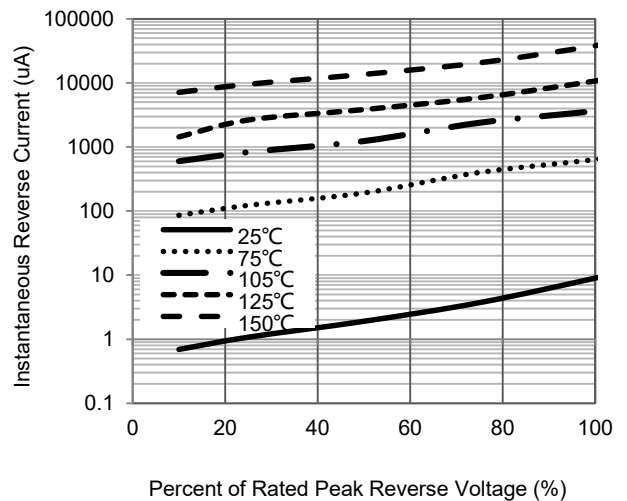


Fig.4 – Typical Reverse Current Characteristics

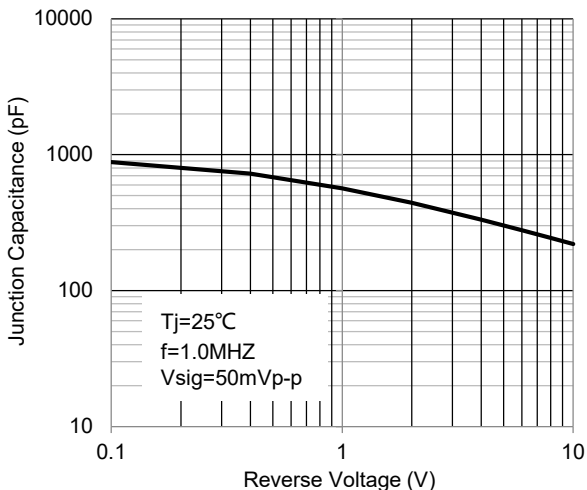
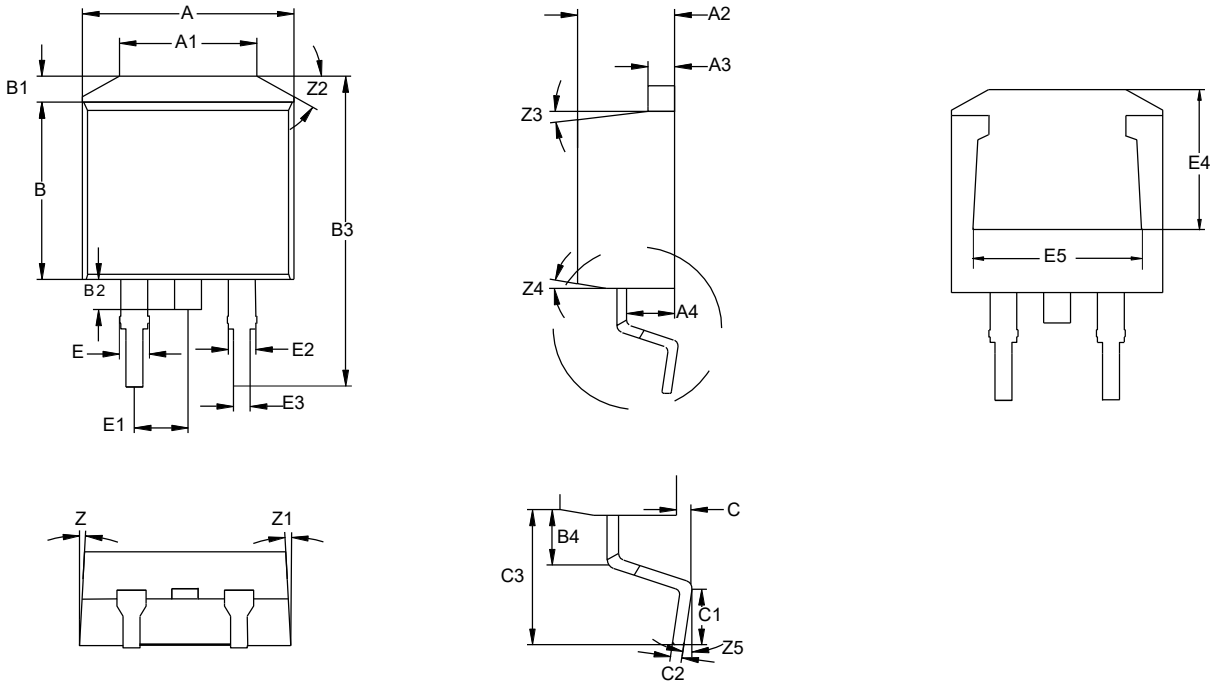


Fig.5 – Typical Junction Capacitance

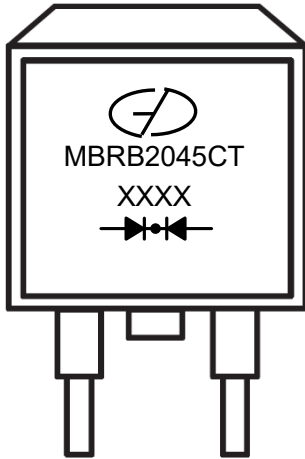
**Package Outline Dimensions** (Unit: millimeters)

**TO-263AB**



TO-263AB							
	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	6.47	6.67	6.87
B1	1.07	1.27	1.47	E5	8.3	8.5	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	0.4	0.5	Z5	-4°		4°

## Marking Outline



- |    |            |   |
|----|------------|---|
| 1. | Logo Mark: |  |
| 2. | Part Name: | MBRB2045CT  |
| 3. | Date Code: | XXXX  |
| 4. | Polarity : |  |

## Revision History

Document Version	Date of release	Description of changes
Rev.A	2013.12.18	Released Datasheet
Rev.B	2021.01.13	Modify document format
Rev.C	2022.04.29	Modify ratings and characteristics curves

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