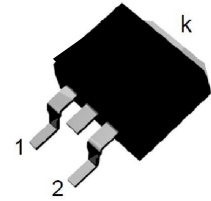


# SMBRB4045CT

Schottky Barrier Rectifier  
Reverse Voltage 45 V Forward Current 40 A

## Features

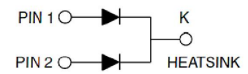
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Low forward voltage, high efficiency
- Guarding for over voltage protection



Package: TO-263

## Mechanical Data

- Case: epoxy, molded
- Weight: 1.4grams (approximately)
- Lead temperature for soldering purpose: 260°C max. for 10 sec
- 50 units per plastic tube or tape reel packing 800pcs/reel



Schematic Diagram

## Maximum Ratings & Electrical Characteristics

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

Parameter	Test Conditions	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage		$V_{RRM}$	45	V
Working Peak Reverse Voltage		$V_{RWM}$	45	V
Maximum DC Blocking Voltage		$V_{DC}$	45	V
Maximum Average Forward Rectified Current @ $T_c=105^\circ\text{C}$	Total Device Per Diode	$I_{F(AV)}$	40 20	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load per Diode		$I_{FSM}$	250	A
Peak repetitive Reverse Current Per Leg at $t_p=2.0\mu\text{s}$ , 1KHz		$I_{RRM}$	2.0	A
Voltage Rate of Change (rated $V_R$ )		$DV/dt$	10000	V/ $\mu\text{s}$
Operating Junction Temperature Range		$T_J$	- 55 to+150	$^\circ\text{C}$
Storage Temperature Range		$T_{STG}$	- 55 to+150	$^\circ\text{C}$
Maximum Instantaneous Forward Voltage per Leg	$I_F=20\text{A}$ $I_F=20\text{A}$	$T_c=25^\circ\text{C}$ $T_c=125^\circ\text{C}$	$V_F$ 0.55 (0.50 typ) 0.45	V
Maximum Reverse Current per Leg at Working Peak Reverse Voltage		$T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	$I_R$ 500 50	$\mu\text{A}$ mA
<b>Thermal Characteristics (<math>T_A=25^\circ\text{C}</math> unless otherwise noted)</b>				
<b>Symbol</b>	<b>Parameter</b>	<b>Typ.(TO-263)</b>		<b>Unit</b>
$R_{\theta JC}$	Thermal Resistance, Junction to Case per Leg	2.0		$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg	62.5		$^\circ\text{C/W}$

Note: Pulse test:300us pulse width, duty cycle=2%

## Ratings and Characteristics Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

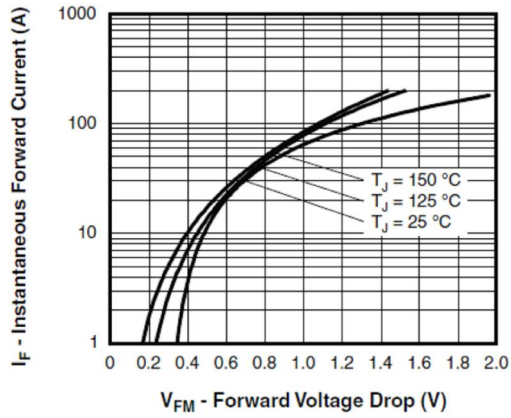


Fig. 1 - Maximum Forward Voltage Drop Characteristics (Per Leg)

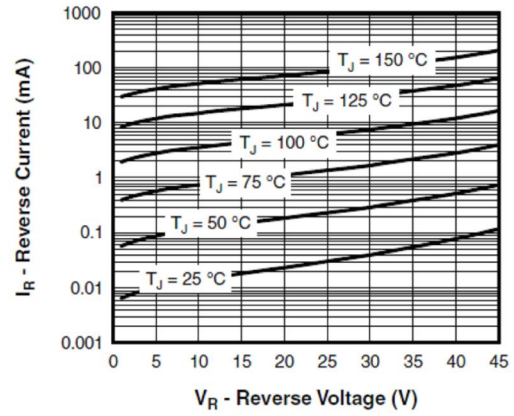


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage (Per Leg)

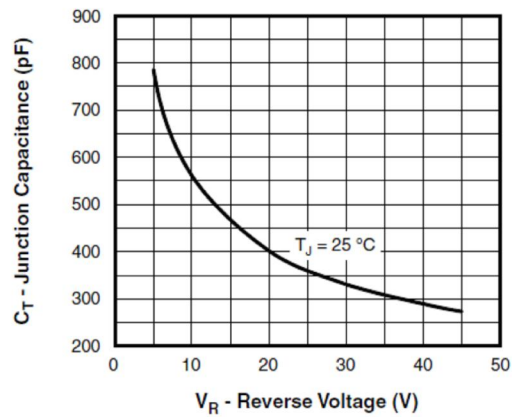


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage (Per Leg)

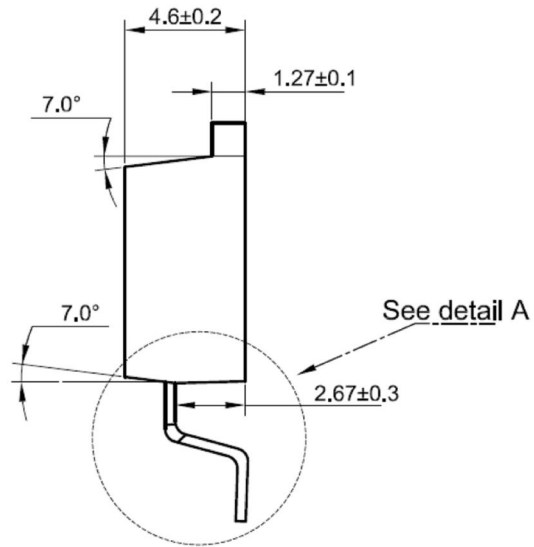
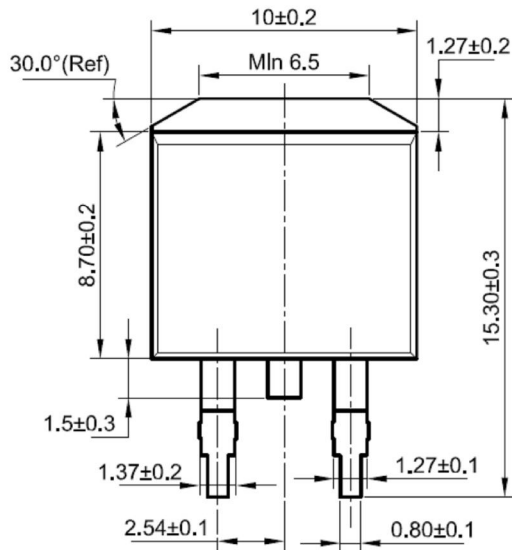
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## Package Outline Dimensions

in millimeters

TO-263



### Detail A

