GOOD-ARK SEMICONDUCTOR

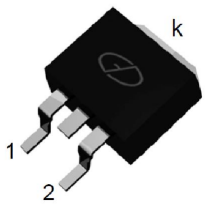
SMBRB4045CT

Schottky Barrier Rectifier

Reverse Voltage 45 V Forward Current 40 A

Features

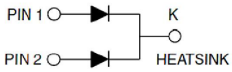
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Low forward voltage, high efficiency
- Guarding for over voltage protection



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°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°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 tp=2.0μs ,1KHz			I_{RRM}	2.0	A
Voltage Rate of Change (rated V_R)			dV/dt	10000	V/μs
Operating Junction Temperature Range			T_J	- 55 to+150	°C
Storage Temperature Range			T_{STG}	- 55 to+150	°C
Maximum Instantaneous Forward Voltage per Leg	I_F=20A I_F=20A	T_C=25°C T_C=125°C	V_F	0.55 (0.50 typ) 0.45	V
Maximum Reverse Current per Leg at Working Peak Reverse Voltage		T_J=25°C T_J=100°C	I_R	500 50	μA mA

Thermal Characteristics (T_A=25°C unless otherwise noted)

Symbol	Parameter	Typ.(TO-263)	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case per Leg	2.0	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg	62.5	°C/W

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

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Ratings and Characteristics Curves (T_A = 25°C unless otherwise noted)

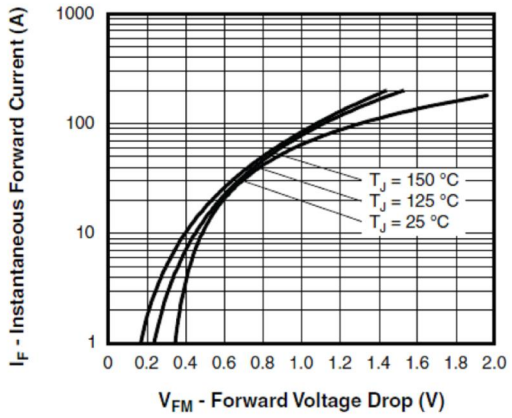

Fig. 1 - Maximum Forward Voltage Drop Characteristics (Per Leg)

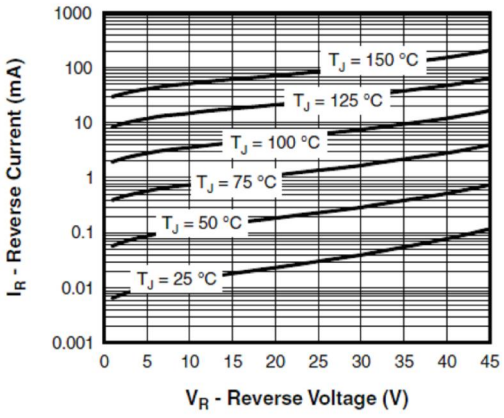

Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage (Per Leg)

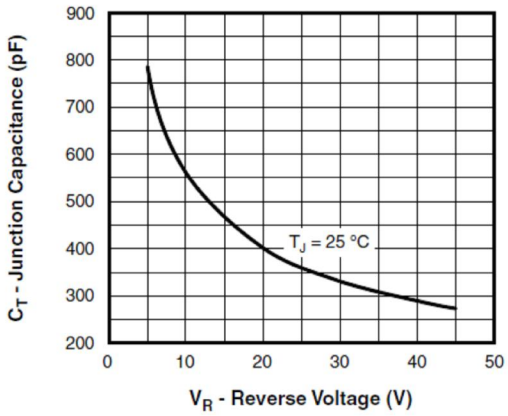

Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage (Per Leg)

Package Outline Dimensions

in millimeters

TO-263