

## 20A SCHOTTKY BARRIER RECTIFIER

### General Description

MBRD2045CT Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications. The device is intended for use in Switched Mode Power Supplies (SMPS), adapters and DC/DC converters.

### Features

- Low forward voltage
- Low power loss/ high efficiency
- High Surge Current Capability
- RoHS Compliant

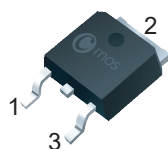
### Product Summary

$V_{RRM}$	$V_F$	$I_{F(AV)}$
45V	0.65V	20A

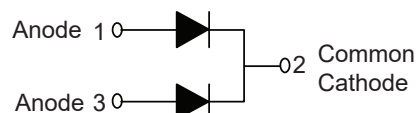
### Applications

- DC/DC converter
- Switched Mode Power Supplies (SMPS)
- Low Voltage High Frequency Invers Circuit

### TO-252 Pin Configuration



TO-252  
(MBRD2045CT)



### Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
$V_{RRM}$	Peak Repetitive Reverse Voltage	45	V
$I_{F(AV)}$	Average Rectified Forward Current (Rated VR-20KHz Square Wave) - 50% duty cycle	10 (Per Leg) 20 (Total)	A
dv/dt	Voltage rate of change (Rated VR)	10000	V/uS
$I_{RRM}$	Peak Repetitive Reverse Surge Current (2uS, 1KHz)	0.5	A
$I_{FSM}$	Forward Peak Surge Current(Rated Load 8.3ms Half Mssine Wave-According to JEDEC Method)	150	A
$T_J, T_{STG}$	Operating and Storage Temperature Range	-40 to 150	°C

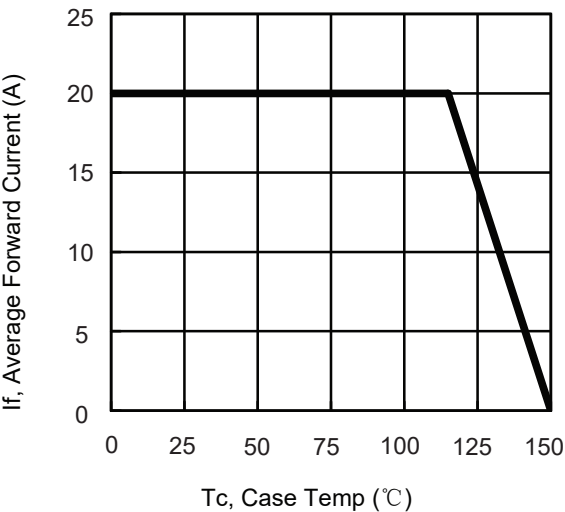
### Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case(Per Leg)	3	---	°C/W

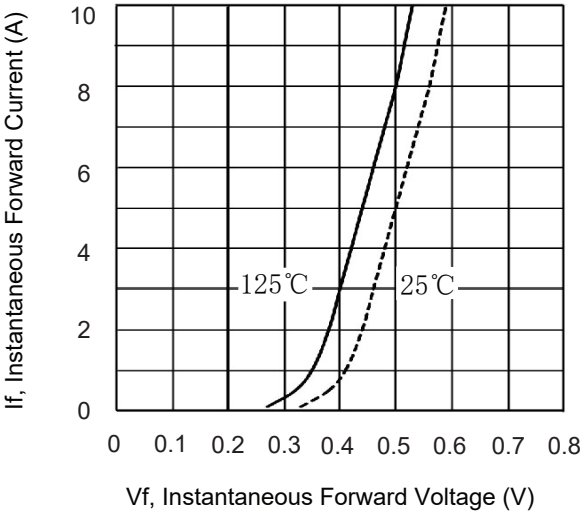
Electrical Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_F$	Forward Voltage Drop per diode	$I_F=10A, T_C=25^{\circ}C$	---	0.6	0.65	V
		$I_F=10A, T_C=125^{\circ}C$	---	---	0.55	
$I_R$	Reverse Leakage Current per diode	$V_R=45V, T_C=25^{\circ}C$	---	---	0.03	mA
		$V_R=45V, T_C=125^{\circ}C$	---	---	12	mA

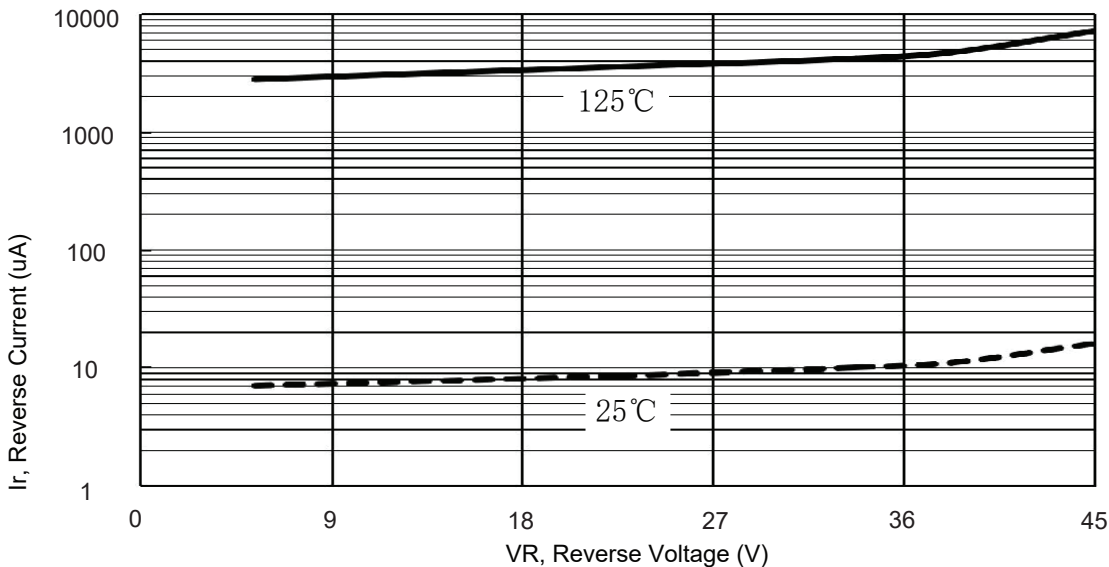
Typical Performance Characteristics



Current derating curve, per element



The forward voltage and forward current curve



The reverse leak current and the reverse voltage (single-device) curve

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