

30A SCHOTTKY BARRIER RECTIFIER

General Description

MBRF3045CT Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications.

Features

- Common Cathode
- Multilayer Metal -Silicon Potential Structure
- Have Over Voltage protect loop, high reliability
- RoHS Compliant

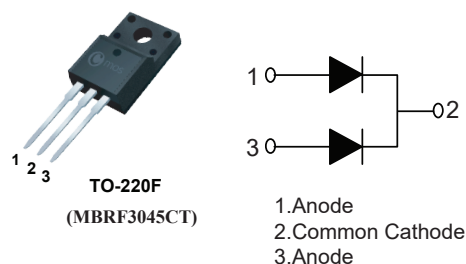
Product Summary

V_{RRM}	V_F	$I_{F(AV)}$
45V	0.66V	30A

Applications

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

TO-220F Pin Configuration



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	15 (Per Leg) 30 (Total)	A
dv/dt	Voltage rate of change (Rated VR)	10000	V/uS
I_{FSM}	Forward Peak Surge Current(Rated Load 8.3ms Half Mssine Wave-According to JEDEC Method)	200	A
T_J, T_{STG}	Operating and Storage Temperature Range	-40 to 150	°C

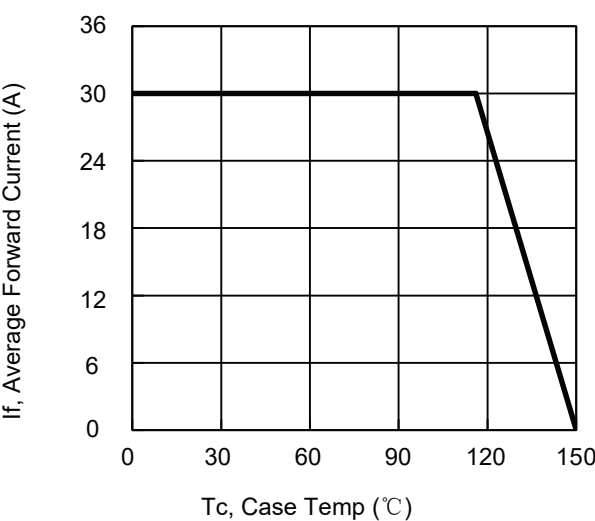
Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case(Per Leg)	4	---	°C/W

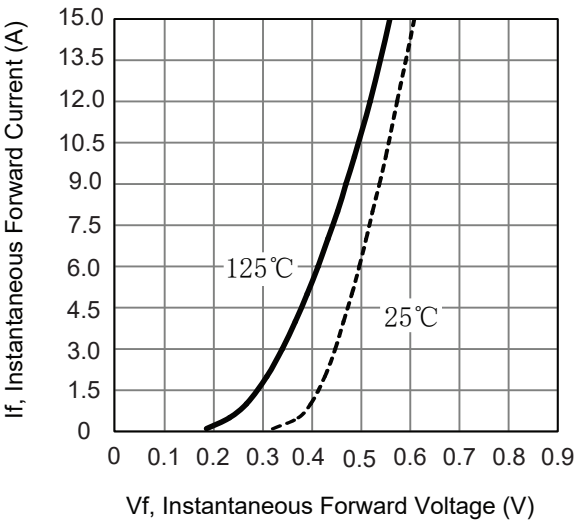
Electrical Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage Drop per diode	$I_F=15A, T_C=25^{\circ}C$	---	0.61	0.66	V
		$I_F=15A, T_C=125^{\circ}C$	---	---	0.6	
I_R	Reverse Leakage Current per diode	$V_R=45V, T_C=25^{\circ}C$	---	---	0.05	mA
		$V_R=45V, T_C=125^{\circ}C$	---	---	15	mA

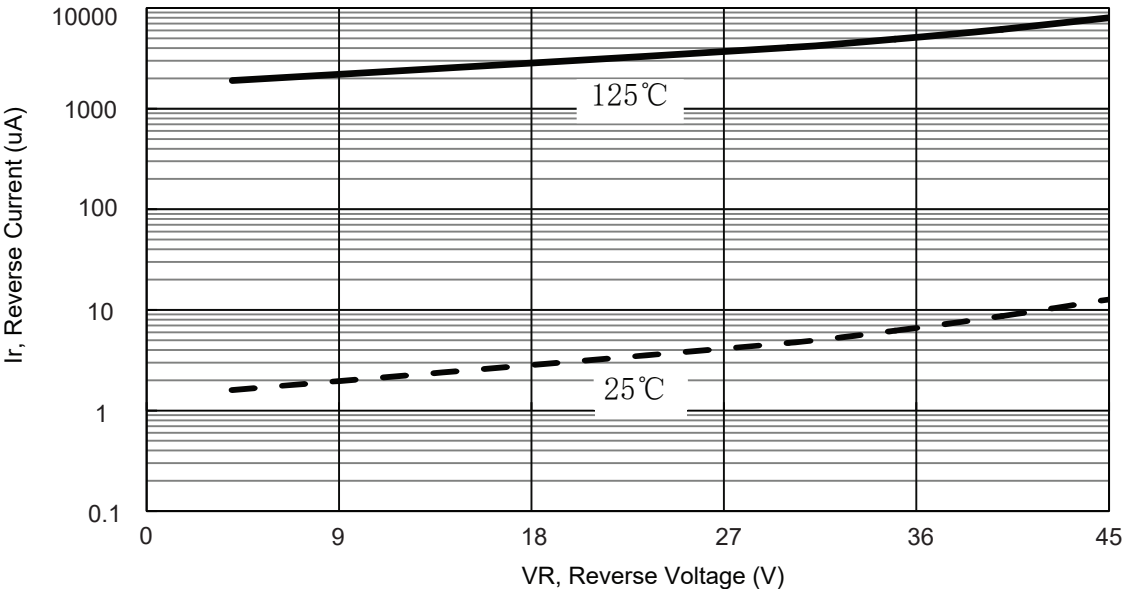
Typical Performance Characteristics



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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