

40A SCHOTTKY BARRIER RECTIFIER

General Description

MBRF40100CT Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications.

Features

- Common Cathode
- Low Leakage Current
- High Current Capability, High Efficiency
- RoHS Compliant

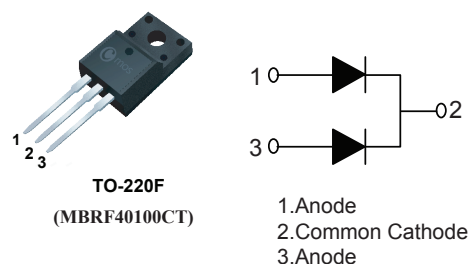
Product Summary

V_{RRM}	V_F	$I_{F(AV)}$
100V	0.85V	40A

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	100	V
$I_{F(AV)}$	Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle	20 (Per Leg) 40 (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)	450x2	A
T_J	Operating Junction Temperature	150	°C
T_{STG}	Storage Temperature	-40 to 150	°C

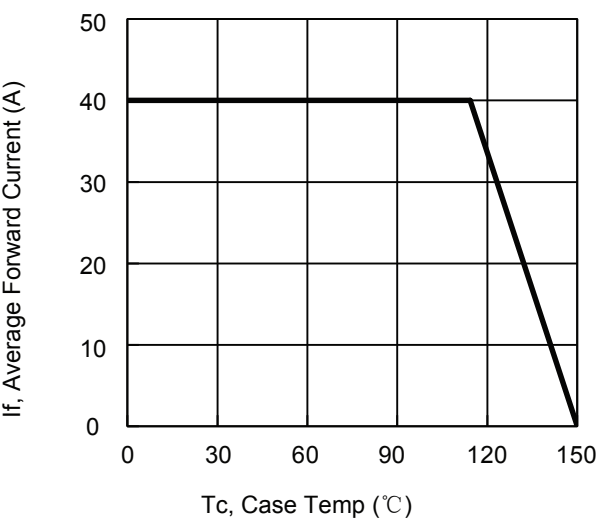
Thermal Data

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

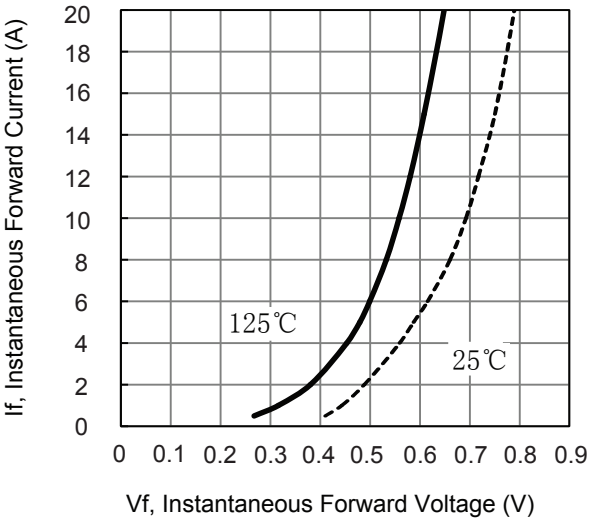
Electrical Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage Drop per diode	$I_F=20A, T_C=25^{\circ}C$	---	0.79	0.85	V
		$I_F=20A, T_C=125^{\circ}C$	---	---	0.7	
I_R	Reverse Leakage Current per diode	$V_R=100V, T_C=25^{\circ}C$	---	---	0.01	mA
		$V_R=100V, T_C=125^{\circ}C$	---	---	10	mA

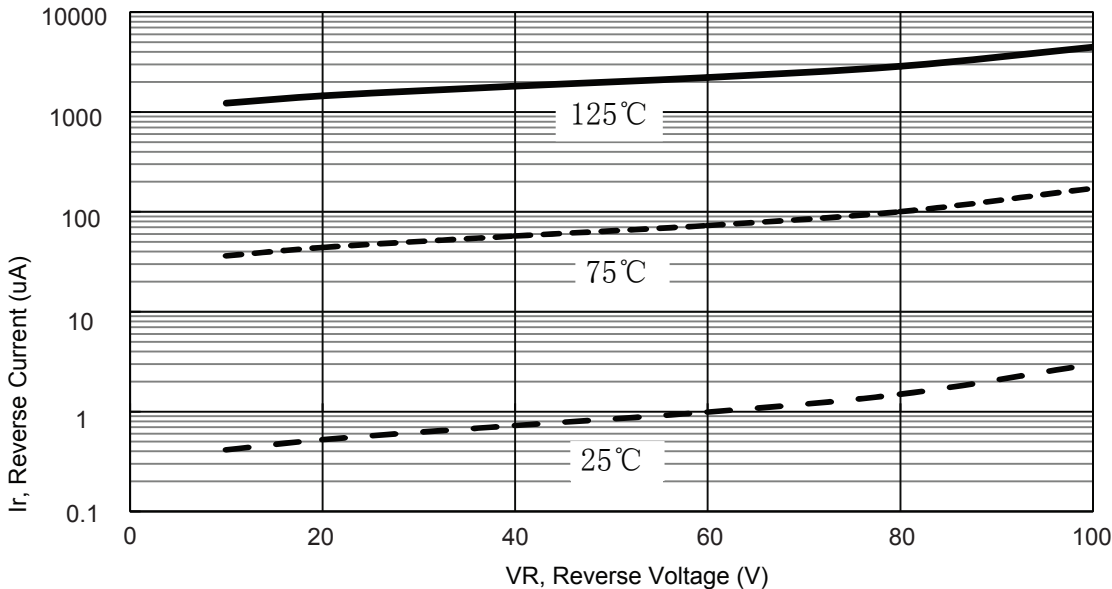
Typical Performance Characteristics



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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