

General Description

MBRD1045CTLV 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

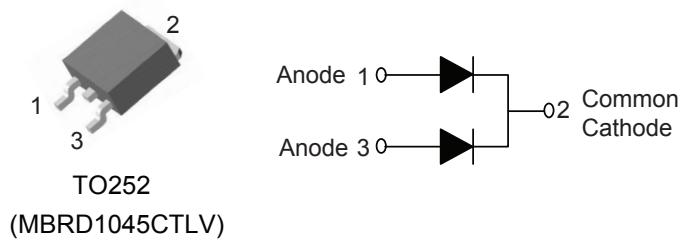
Product Summary

V_{RRM}	V_F	$I_{F(AV)}$
45V	0.53V	10A

Applications

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

TO-252 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	5 (Per Leg) 10 (Total)	A
I_{FSM}	Forward Peak Surge Current(Rated Load 8.3ms Half Mssine Wave-According to JEDEC Method)	320x2	A
T_J	Operating Junction Temperature	125	°C
T_{STG}	Storage Temperature	-40 to 150	°C

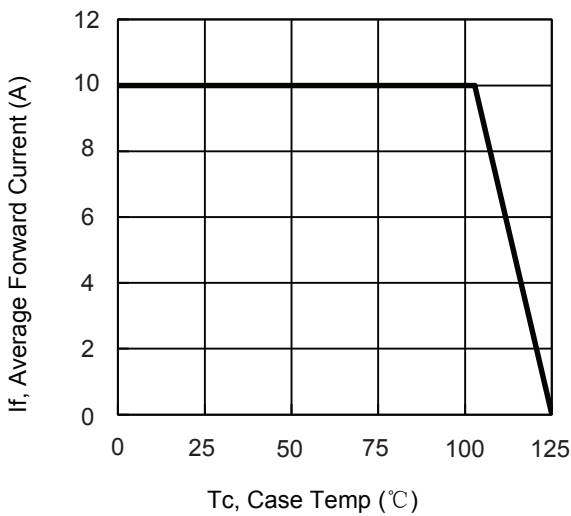
Thermal Data

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

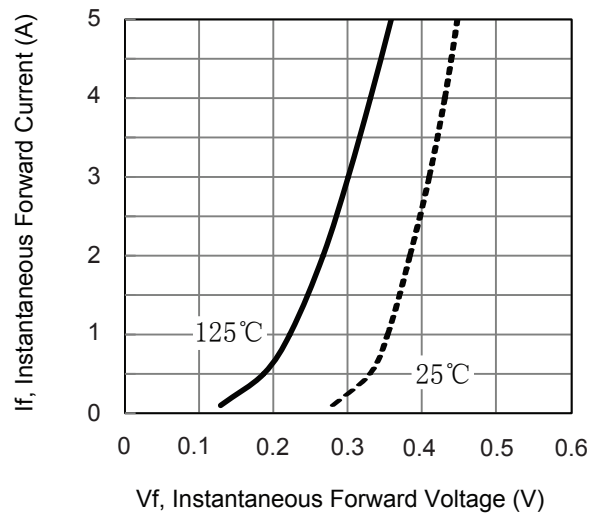
Electrical Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V _F	Forward Voltage Drop per diode	I _F =5A(I _{FAV} =5A×2), T _C =25°C	---	0.45	0.53	V
		I _F =5A(I _{FAV} =5A×2), T _C =125°C	---	---	0.45	
I _R	Reverse Leakage Current per diode	V _R =45V, T _C =25°C	---	---	0.1	mA
		V _R =45V, T _C =125°C	---	---	15	mA

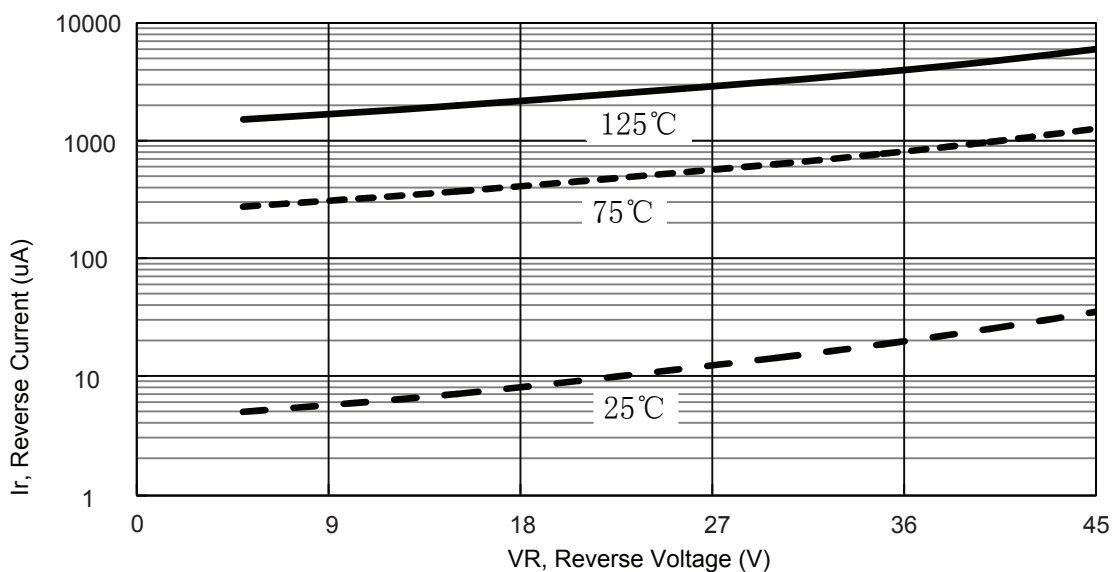
Typical Performance Characteristics



Current derating curve, per element



The forward voltage and forward current curve



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