

30A SCHOTTKY BARRIER RECTIFIER

General Description

MBRF30100CTLV 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

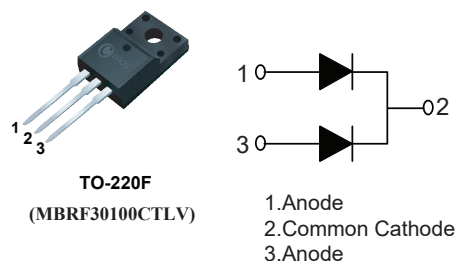
Product Summary

V_{RRM}	V_F	$I_{F(AV)}$
100V	0.75V	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	100	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_{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)	250	A
T_J	Operating Junction Temperature	125	°C
T_{STG}	Storage Temperature	-40 to 150	°C

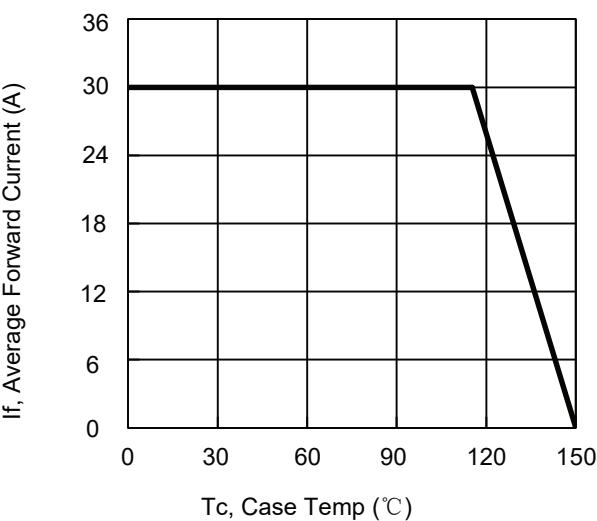
Thermal Data

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

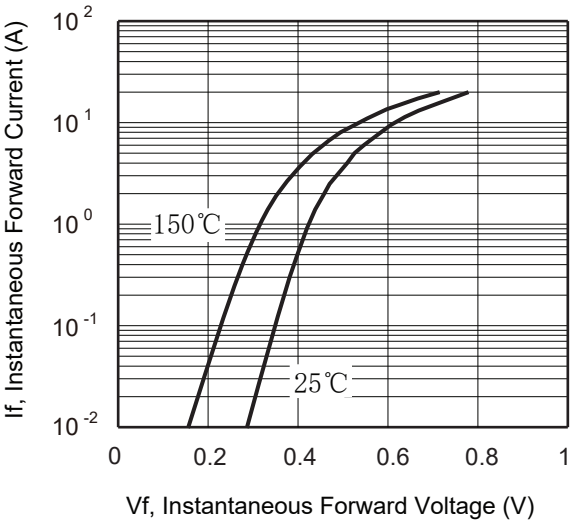
Electrical Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage Drop per diode	$I_F=15A, T_c=25^{\circ}C$	---	0.69	0.75	V
		$I_F=15A, T_c=125^{\circ}C$	---	---	0.7	
I_R	Reverse Leakage Current per diode	$V_R=100V, T_c=25^{\circ}C$	---	---	100	μA
		$V_R=100V, T_c=125^{\circ}C$	---	---	20	mA

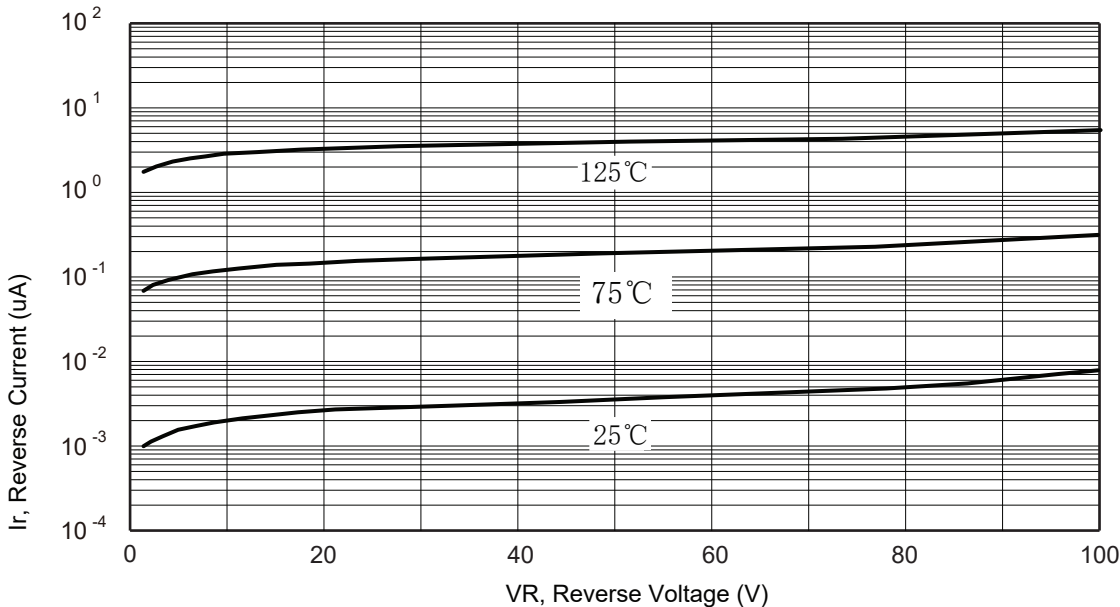
Typical Performance Characteristics



Current derating curve, per element



The forward voltage and forward current curve



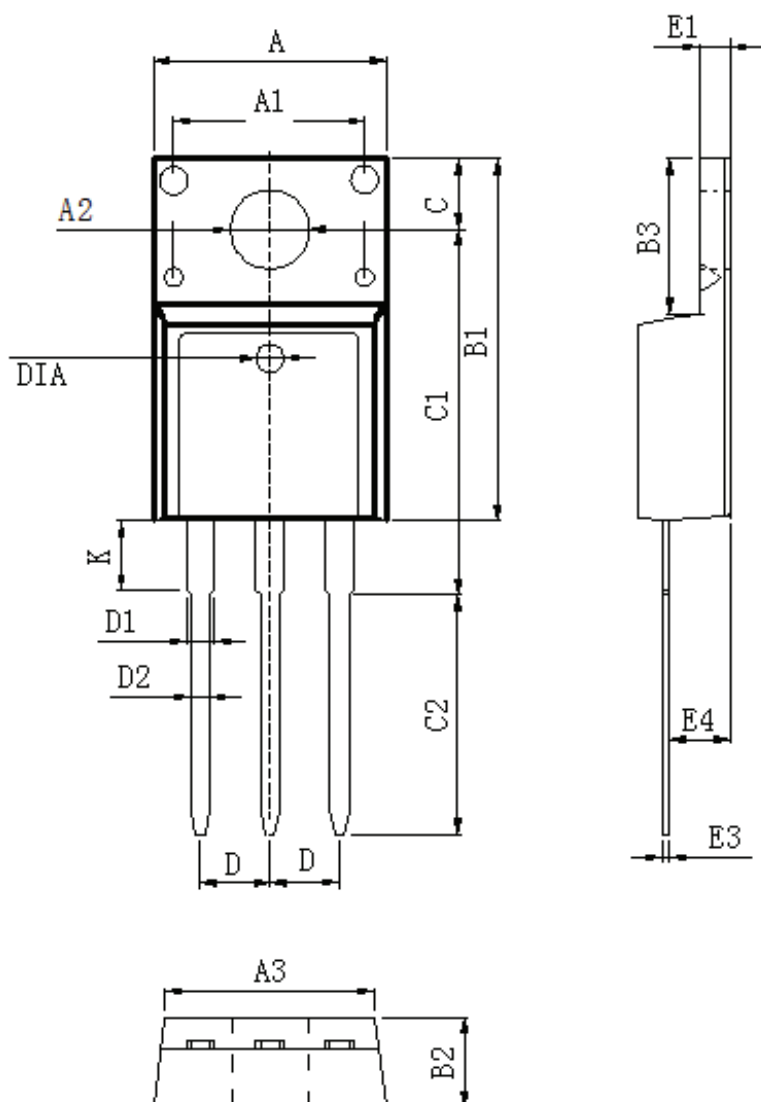
The reverse leak current and the reverse voltage (single-device) curve

This product has been designed and qualified for the consumer market.
Cmos assumes no liability for customers' product design or applications.
Cmos reserves the right to improve product design, functions and reliability without notice. Please refer to the latest version of specification.

Package Dimension

TO-220F

Unit :mm



DIM	MILLIMETERS
A	10.16 ± 0.3
A1	7.00 ± 0.1
A2	3.3 ± 0.2
A3	9.5 ± 0.2
B1	15.87 ± 0.3
B2	4.7 ± 0.2
B3	6.68 ± 0.4
C	3.3 ± 0.2
C1	12.57 ± 0.3
C2	10.02 ± 0.5
D	2.54 ± 0.05
D1	1.28 ± 0.2
D2	0.8 ± 0.1
K	3.1 ± 0.3
E1	2.54 ± 0.1
E3	0.5 ± 0.1
E4	2.76 ± 0.2
DIA	$\odot 1.5$ (deep 0.2)