

10A LOW VF SCHOTTKY BARRIER RECTIFIER



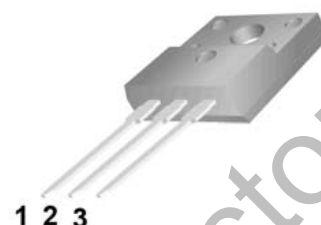
MBRF10300VCT

Features:

- ☐ Low power loss, high efficiency.
- ☐ High surge capacity.
- ☐ High frequency operation.
- ☐ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ☐ Metal silicon junction, majority carrier conduction.
- ☐ High current Capability, low forward voltage drop.
- ☐ Guard ring for over voltage protection.

RoHS
COMPLIANT

TO-220F
(ITO-220AB)



1. Anode 2. Cathode 3. Anode

Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	300	V
Maximum average forward rectified current	Per leg	5	A
	Total device	10	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	150	A
Operating junction and Storage temperature range	T_J, T_{stg}	-55 to +175	°C

Electrical Characteristics (Ta=25°C Unless otherwise noted)

Parameter	Test Conditions	Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage (Per leg)	IF=1.0A	$V_F^{1)}$	0.73	-	V
	IF=3.0A		0.83	-	
	IF=5.0A		0.88	0.92	
Reverse Current	VR=300V	$I_R^{2)}$	0.1	5	μA
			3	-	mA

Notes: 1. Pulse test: 300 μs pulse width, 1% duty cycle

2. Pulse test: pulse width $\leq 40ms$

Thermal Characteristics

Parameter	Symbol	Value	Unit
Typical thermal resistance ³⁾	$R_{\theta JC}$	4.5	°C/W

3. Thermal resistance from junction to case

RATING AND CHARACTERISTIC CURVES

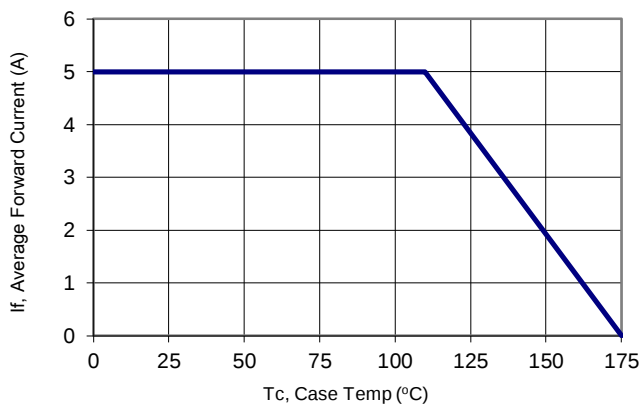


Figure 1: Current Derating, Case

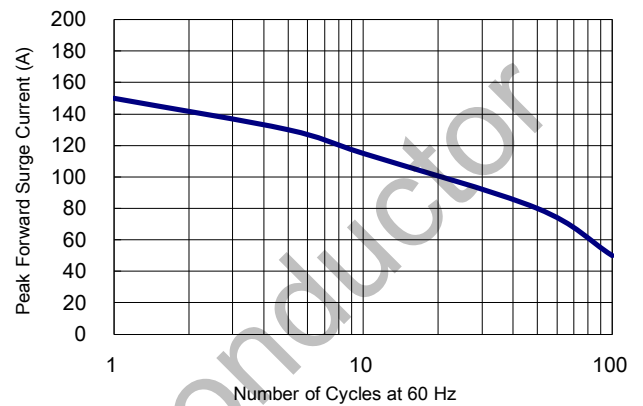


Figure 2: Maximum Repetitive Surge Current

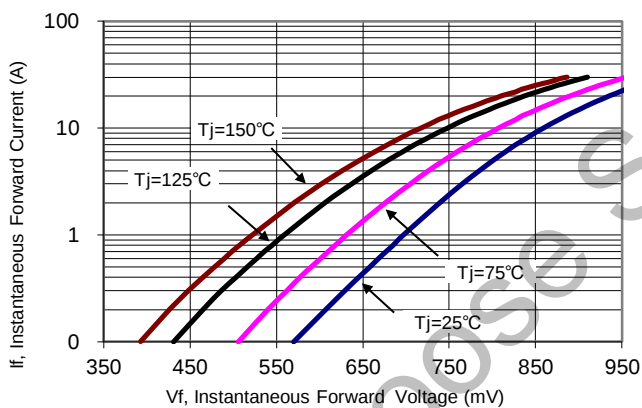


Figure 3: Typical Forward Voltage

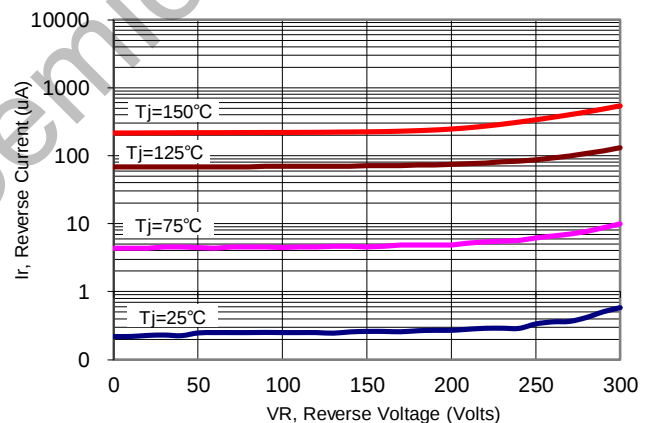


Figure 4: Typical Reverse Current

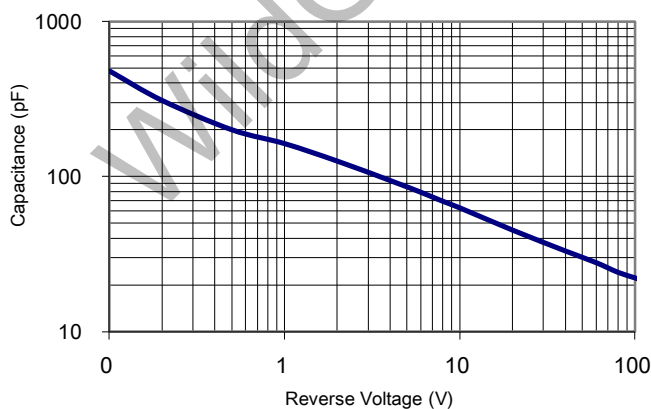
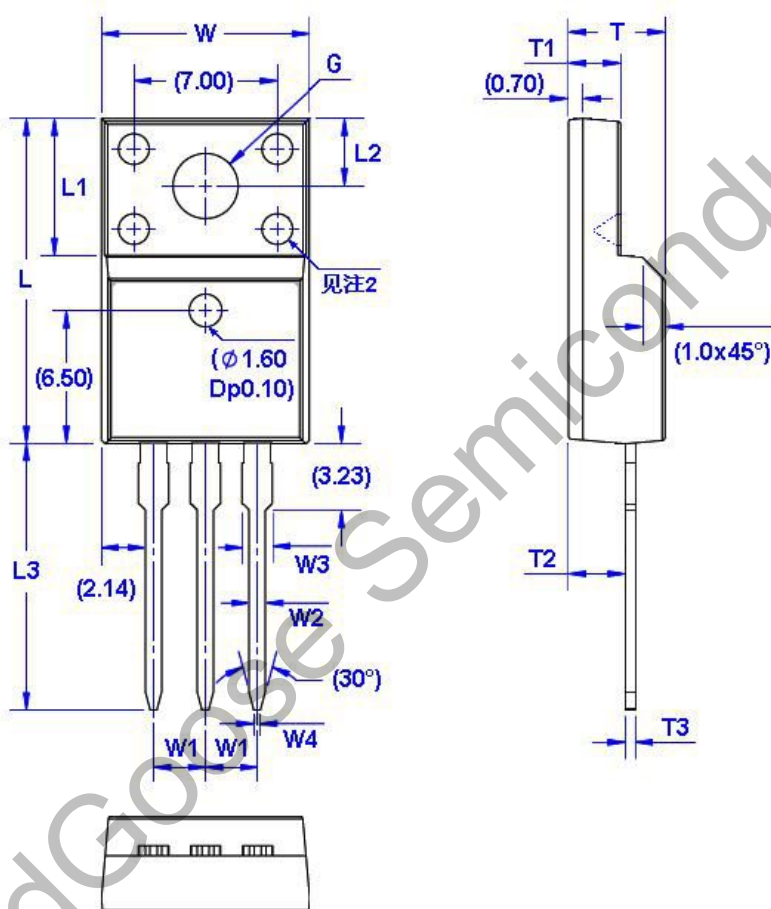


Figure 5: Typical Junction Capacitance

Package DimensionTO-220F
(ITO-220AB)

Symbol	Size		Symbol	Size		Symbol	Size		Symbol	Size	
	Min	Max		Min	Max		Min	Max		Min	Max
W	9.96	10.36	W4	0.25	0.45	L3	12.78	13.18	T3	0.45	0.60
W1	2.54 (TYP)		L	15.67	16.07	T	4.50	4.90	G(Φ)	3.08	3.28
W2	0.70	0.90	L1	6.48	6.88	T1	2.34	2.74			
W3	1.24	1.47	L2	3.20	3.40	T2	2.56	2.96			