

NCE MOS Barrier Rectifier

Description

This Schottky rectifier has been optimized for low reverse leakage at high temperature, this product special design for high forward and reverse surge capability

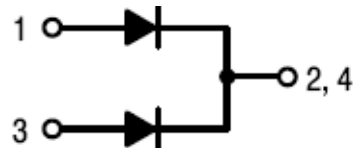
General Features

- V_{RRM} 100V
- $I_{F(AV)}$ 2 x 10 A

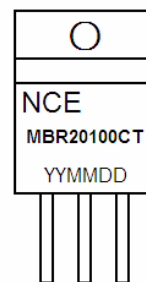
- High frequency operation
- Low forward voltage drop
- Center tap package
- Lead free product is acquired
- High Junction Temperature
- High ESD Protection, IEC Model $\pm 10KV$
- High Forward & Reverse Surge capability

Application

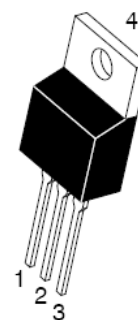
- Power Supply – Output Rectification
- Power Management
- Instrumentation



Schematic diagram



Marking and pin Assignment



TO-220 top view

Package Marking And Ordering Information

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
MBR20100CT	MBR20100CT	TO-220			

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

Parameter	Symbol	Limit	Unit
Peak Repetitive Reverse Voltage	VRRM	100	V
Average Forward Current	Per diode	10	A
	Per device	20	A
Non Repetitive Surge Forward Current(tp=8.3ms sinusoidal)	IFSM	180	A
Peak Repetitive Reverse Surge Current(Tp=2us)	IRRM	0.5	A
Maximum operation Junction Temperature Range	TJ	-50~150	°C
Storage Temperature Range	Tstg	-50~150	°C

Thermal Characteristic

Thermal Resistance, Junction-to- Case	$R_{\theta JC}$	2	$^{\circ}C/W$
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Electrical Characteristics (TA=25 $^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Reverse Breakdown Voltage	VR	$I_R=0.5mA$	100			V
Forward Voltage Drop	VF (note1)	$I_F=10A, T_J=25^{\circ}C$		0.78	0.80	V
		$I_F=10A, T_J=125^{\circ}C$			0.75	V
Leakage Current	IR	$V_R=100V, T_J=25^{\circ}C$		0.01	0.1	mA
		$V_R=100V, T_J=125^{\circ}C$		0.5	5	mA

Notes:

1. Pulse width < 300 μs , duty cycle < 2

TYPICAL ELECTRICAL CHARACTERISTICS

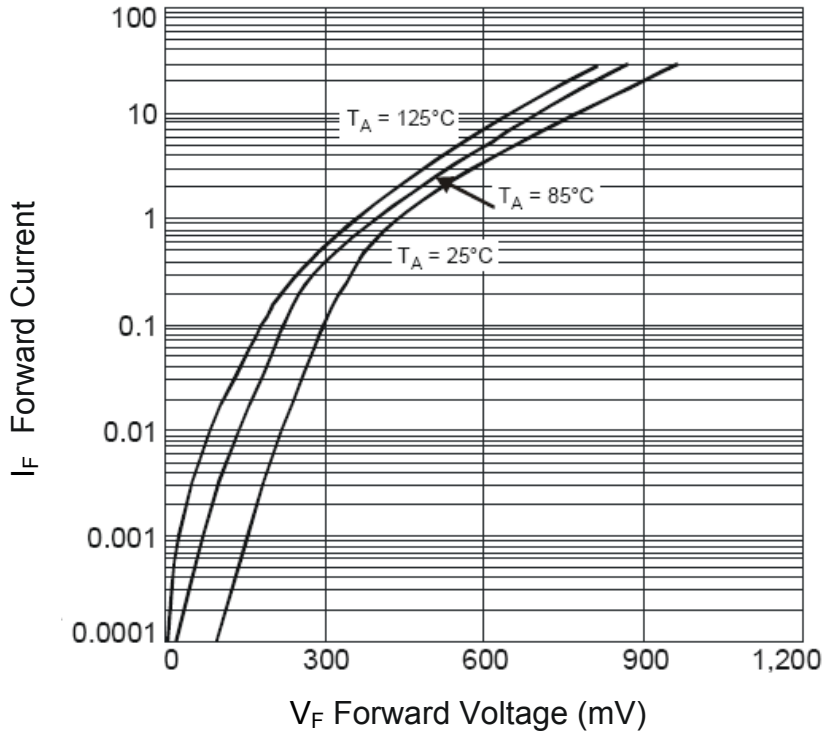


Figure 1 Typical Forward Characteristics

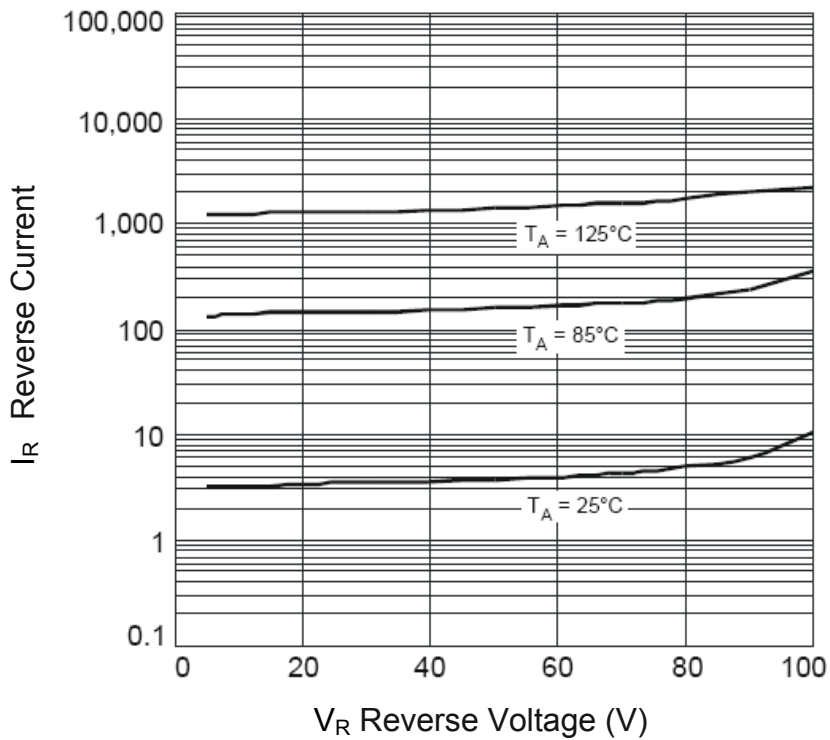
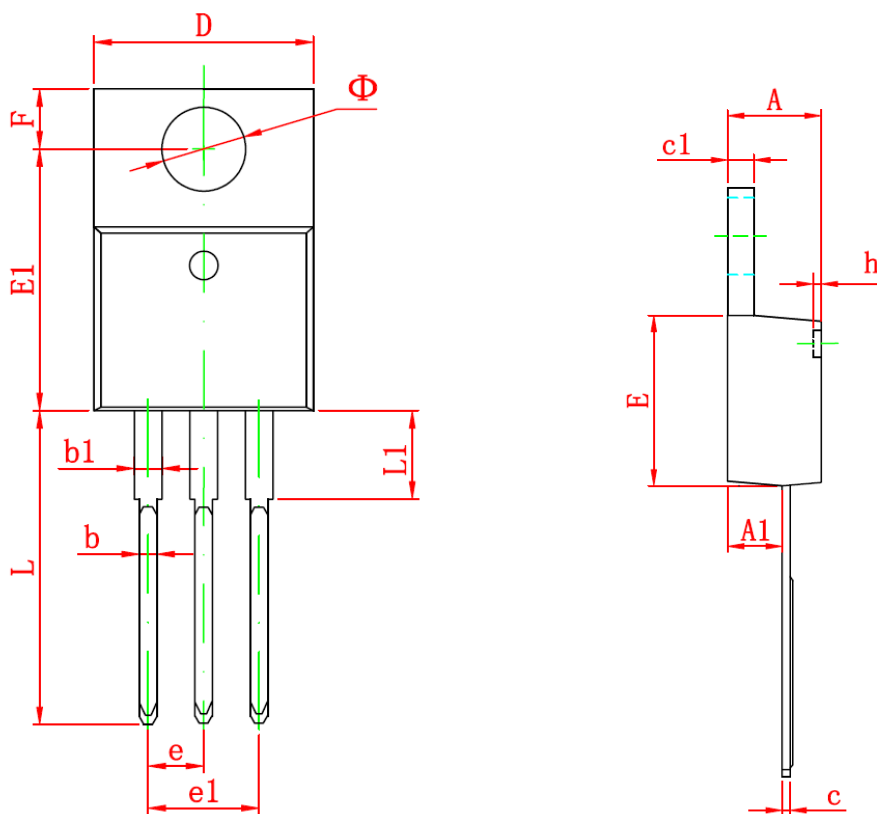


Figure 2 Typical Reverse Characteristics

TO-220 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155

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