

# MBR20S100CT

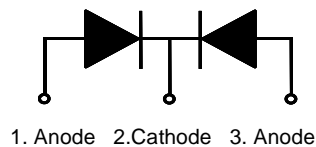
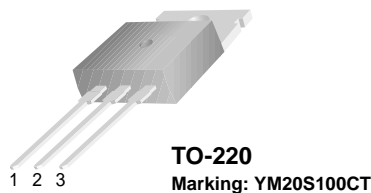
## Schottky Barrier Rectifier

### Features

- Low forward voltage drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection

### Applications

- Switched mode power supply
- Freewheeling diodes



### Absolute Maximum Ratings T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>RRM</sub>	Maximum Repetitive Reverse Voltage	100	V
V <sub>R</sub>	Maximum DC Reverse Voltage	100	V
I <sub>F(AV)</sub>	Average Rectified Forward Current @T <sub>C</sub> = 135°C	20	A
I <sub>FSM</sub>	Non-Repetitive Peak Surge Current (per diode) 60Hz Single Half-Sine Wave	200	A
T <sub>J</sub> , T <sub>STG</sub>	Operating Junction and Storage Temperature	-65 to +150	°C

### Thermal Characteristics

Symbol	Parameter	Value	Units
R <sub>θJC</sub>	Maximum Thermal Resistance, Junction to Case (per diode)	1.54	°C/W

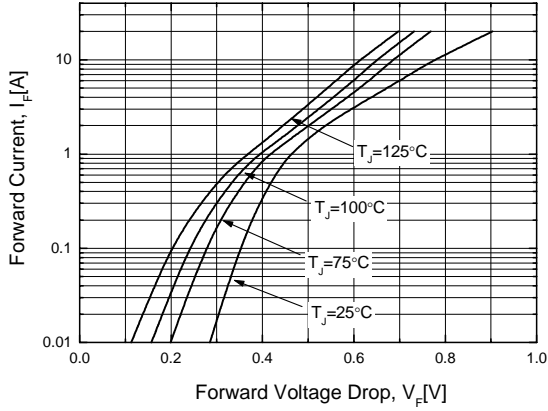
### Electrical Characteristics T<sub>C</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units	
V <sub>FM</sub> *	Maximum Instantaneous Forward Voltage I <sub>F</sub> = 10A I <sub>F</sub> = 10A I <sub>F</sub> = 20A I <sub>F</sub> = 20A	T <sub>C</sub> = 25°C	-	V
		T <sub>C</sub> = 125°C	0.70	V
		T <sub>C</sub> = 25°C	0.95	V
		T <sub>C</sub> = 125°C	0.85	V
I <sub>RM</sub> *	Maximum Instantaneous Reverse Current @ rated V <sub>R</sub>	T <sub>C</sub> = 25°C	0.1	mA
		T <sub>C</sub> = 125°C	20	mA

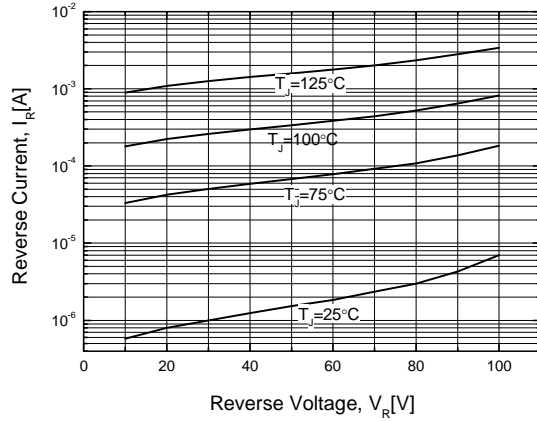
\* Pulse Test: Width = 300μs, Duty Cycle = 2%

## Typical Performance Characteristics

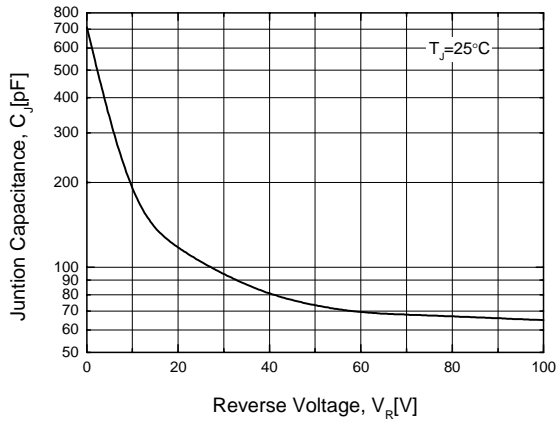
**Figure 1. Typical Forward Voltage Characteristics (per diode)**



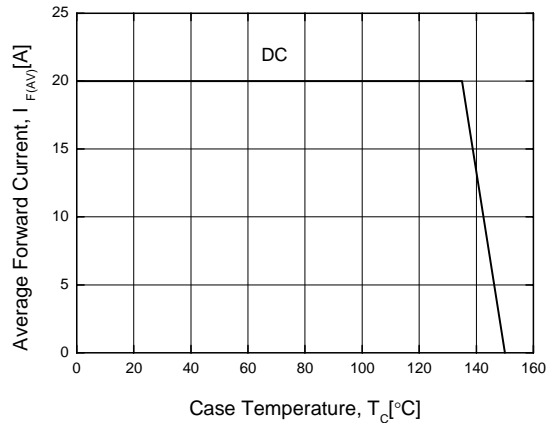
**Figure 2. Typical Reverse Current vs. Reverse Voltage (per diode)**



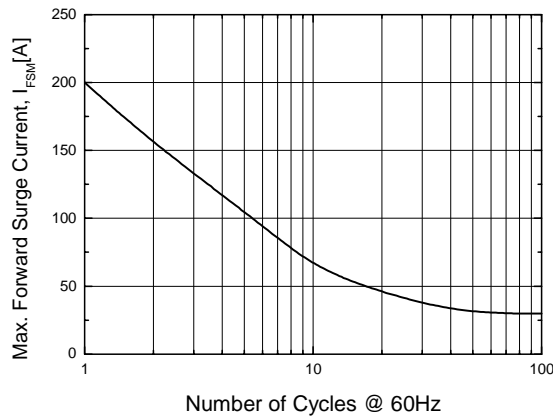
**Figure 3. Typical Junction Capacitance (per diode)**



**Figure 4. Forward Current Derating Curve**

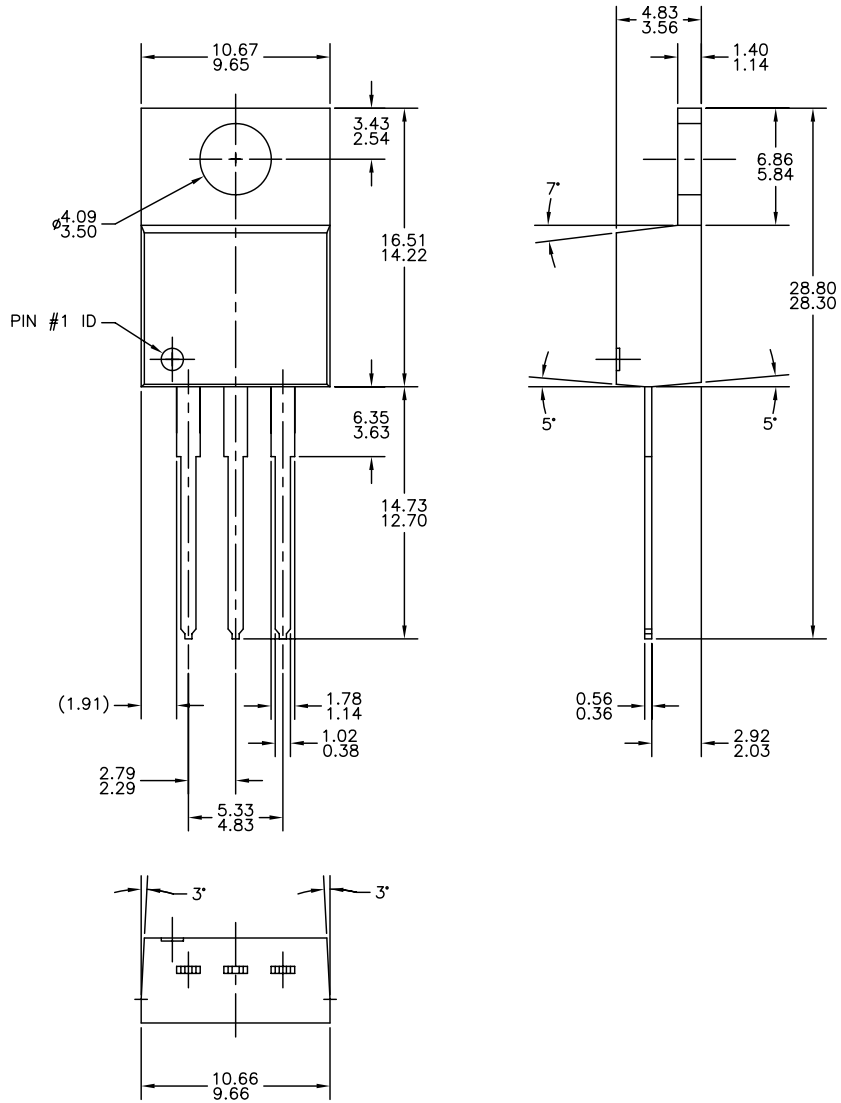


**Figure 5. Non-Repetitive Surge Current (per diode)**



Mechanical Dimensions

TO-220



- NOTES: UNLESS OTHERWISE SPECIFIED
- A) STANDARD LEAD FINISH: 200 MICRONS / 5.08 MICROMETERS MIN. LEAD/TIN 15/85 ON COPPER.
  - B) REFERENCE JEDEC, TO-220, ISSUE J, VARIATION AB, DATED MARCH 24, 1987.
  - C) ALL DIMENSIONS ARE IN MILLIMETERS.
  - D) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973

Dimensions in Millimeters

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Bottomless™	FPS™	MICROCOUPLER™	QFET <sup>®</sup>	TinyLogic <sup>®</sup>
Build it Now™	FRFET™	MicroFET™	QS™	TINYOPTO™
CoolFET™	GlobalOptoisolator™	MicroPak™	QT Optoelectronics™	TruTranslation™
CROSSVOLT™	GTO™	MICROWIRE™	Quiet Series™	UHC™
DOME™	HiSeC™	MSX™	RapidConfigure™	UltraFET <sup>®</sup>
EcoSPARK™	I <sup>2</sup> C™	MSXPro™	RapidConnect™	UniFET™
E <sup>2</sup> CMOST™	i-Lo™	OCX™	μSerDes™	VCX™
EnSigna™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER <sup>®</sup>	Wire™
FACT™	IntelliMAX™	OPTOLOGIC <sup>®</sup>	SMART START™	
FACT Quiet Series™		OPTOPLANAR™	SPM™	
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Programmable Active Droop™		Power247™	SuperSOT™-3	
		PowerEdge™	SuperSOT™-6	

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