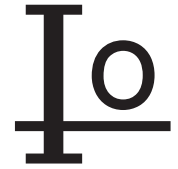


# MBR30100LCT MBR30100LFCT



LOW VF SCHOTTKY BARRIER RECTIFIER

## Features

- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ High surge current capability
- ✧ Guard-ring for overvoltage protection
- ✧ For use in low voltage - high frequency inventor, free wheeling, and polarity protection application

## Mechanical Data

- ✧ Terminals: Pure tin plated leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in-lbs, max

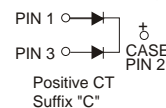
## VOLTAGE RANGE

100 Volts

## CURRENT

30.0 Ampere

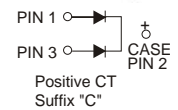
### TO-220AB



MBR30100LCT

- ✧ Weight: 1.92 grams

### ITO-220AB



MBR30100LFCT

- ✧ Weight: 1.72 grams

## MAXIMUM RATINGS (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	MBR30100LCT	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	100	V
Maximum RMS voltage	V <sub>RMS</sub>	70	V
Maximum DC blocking voltage	V <sub>DC</sub>	100	V
Maximum average forward rectified current	F(AV)	30	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	F <sub>SM</sub>	175	A
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C
Voltage Rate of Change (Rated V <sub>R</sub> )	dv/dt	10,000	V/μs

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Instantaneous Forward Vltage	I <sub>F</sub> =5A	V <sub>F</sub>	0.48	----	Volts
	I <sub>F</sub> =10A		0.58	----	
	I <sub>F</sub> =15A		0.65	0.72	
	I <sub>F</sub> =5A		0.38		
	I <sub>F</sub> =10A		0.45	----	
	I <sub>F</sub> =15A		0.60	0.66	
Instantaneous reverse current	Rated V <sub>R</sub>	I <sub>R</sub>	T <sub>A</sub> =25	0.03	0.10
			T <sub>A</sub> =125	18	45
Typical junction capacitance	4.0 V, 1 MHz	C <sub>J</sub>	0.57		nF
Typical Thermal Resistance	TO-220AB		R <sub>θJC</sub>	3.0	
	ITO-220AB		R <sub>θJC</sub>	4.5	

NOTES: 1. 300us pulse width, 2% duty cycle.

2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to case

# MBR30100L Characteristics Curves

## RATING AND CHARACTERISTIC CURVES ( $T_A = 25^\circ\text{C}$ unless otherwise specified )

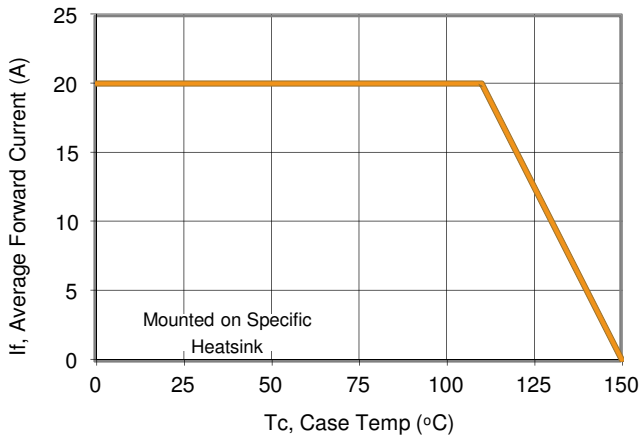


Figure 1: Current Derating, Case

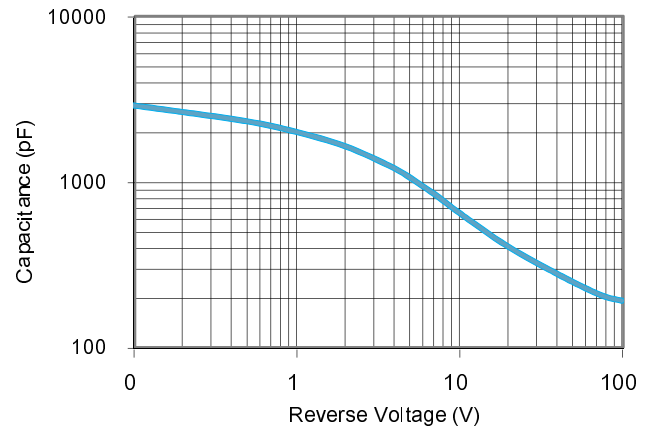


Figure 2: Typical Junction Capacitance

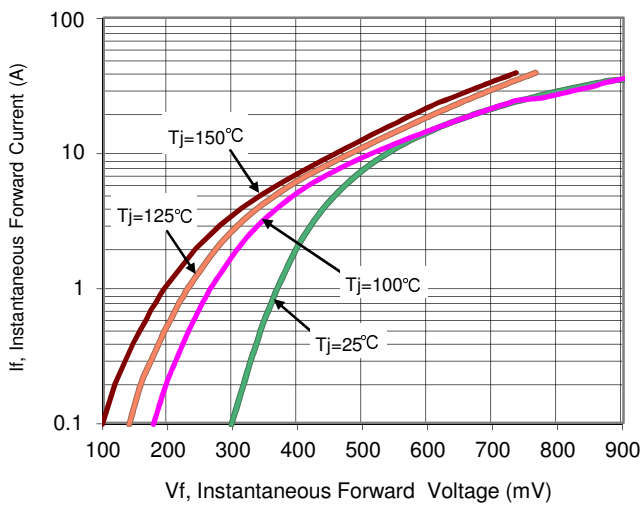


Figure 3: Typical Forward Voltage

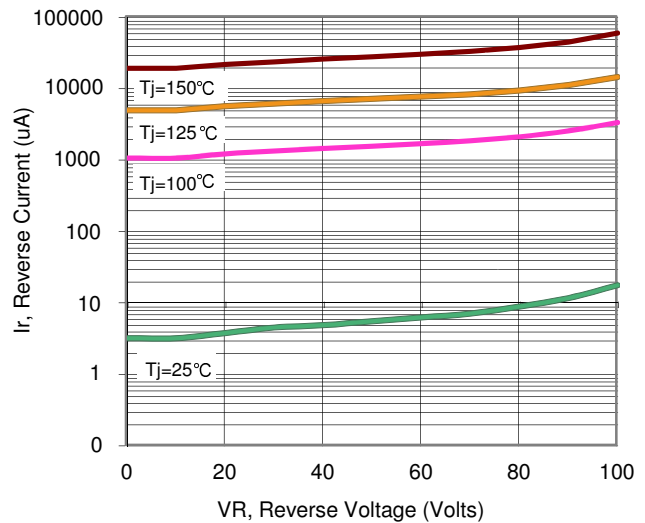


Figure 4: Typical Reverse Current

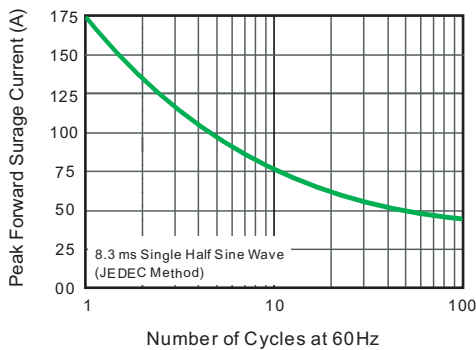
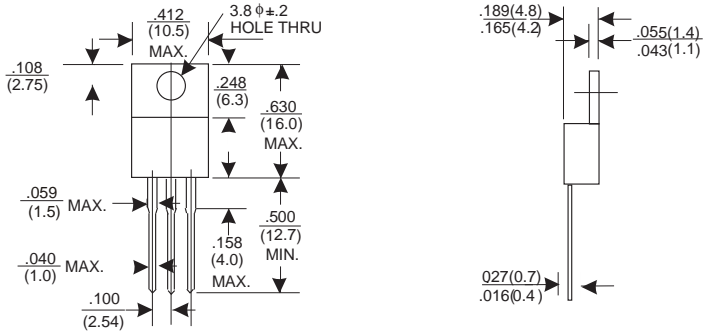


Figure 5: Maximum Non-Repetitive Peak Forward Surge Current

# Package information

## Package Outline Dimensions millimeters

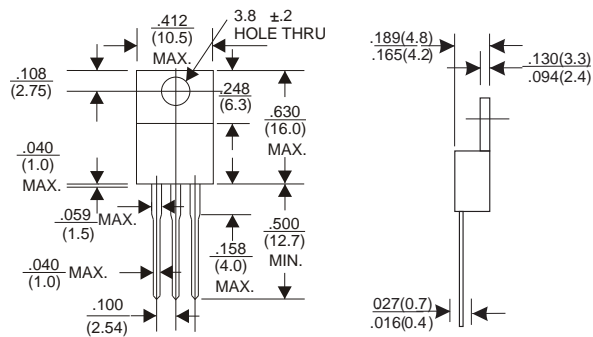
### TO-220AB



Dimensions in inches and (millimeters)

## Package Outline Dimensions millimeters

### ITO-220AB



Dimensions in inches and (millimeters)