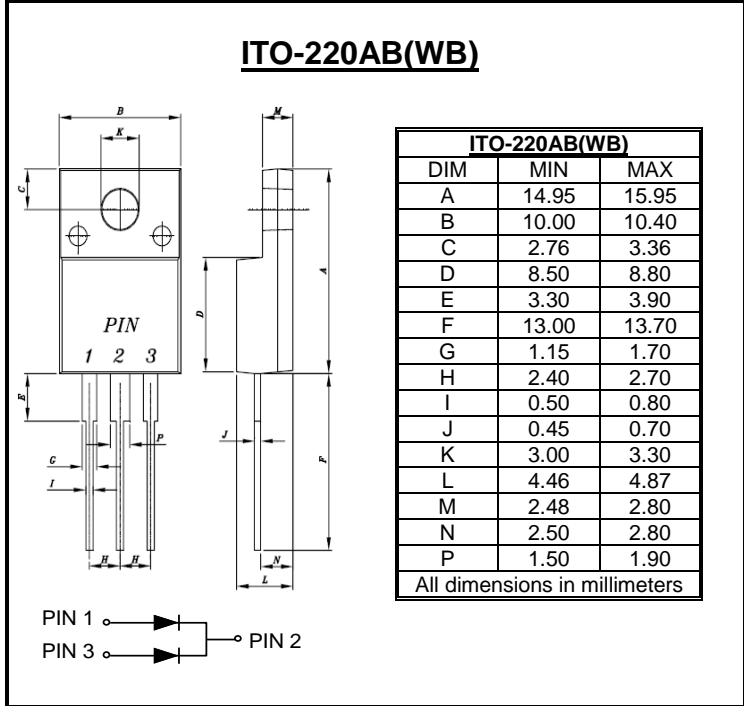


# MBRF20150CTW

## SCHOTTKY BARRIER RECTIFIER

**REVERSE VOLTAGE – 150 Volts**  
**FORWARD CURRENT – 20 Amperes**

- FEATURES**
- Metal of silicon rectifier, majority carrier conduction
  - Guard ring for transient protection
  - Low power loss, high efficiency
  - Low leakage current
  - High current capability, low  $V_F$
  - High surge capacity
  - **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
  - **Halogen and Antimony Free. "Green" Device (Note 3)**
- MECHANICAL DATA**
- Package: JEDEC ITO-220AB
  - Package Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.), "Halogen-free"
  - Polarity: As marked on the body
  - Weight: 1.558 grams (Approximate)
  - Mounting Position: Any
  - Marking Code: MBRF20150CTW
  - Max. mounting torque = 0.5N.m (5.1Kgf.cm)



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	150	V
Maximum DC blocking voltage	$V_{DC}$	150	V
Maximum average rectified output current	$I_{(AV)}$	20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	$I_{FSM}$	180	A
Operating and storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

### STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=10A$ $T_J=25^\circ C$ $T_J=125^\circ C$	$V_F$	--	0.92	V
	$I_F=20A$ $T_J=25^\circ C$ $T_J=125^\circ C$		0.70	0.75	
	$I_F=20A$ $T_J=25^\circ C$ $T_J=125^\circ C$		0.81	0.86	
Leakage current	$V_R=150V$ $T_J=25^\circ C$ $T_J=125^\circ C$	$I_R$	--	8	$\mu A$
Typical junction capacitance (Note 5)		$C_j$	1.03	5	mA
			170		pF

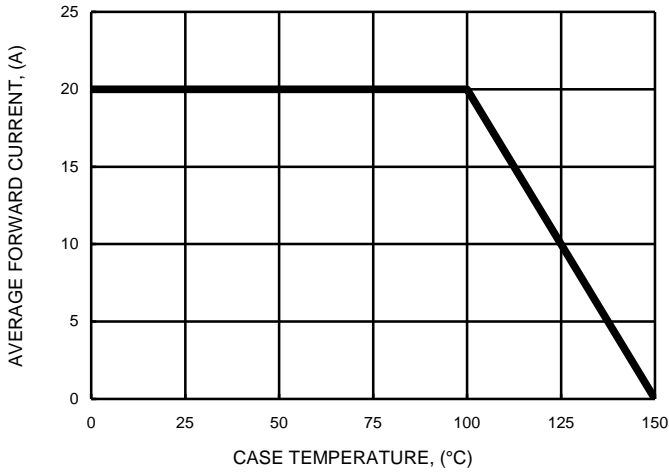
### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	$R_{thJc}$ $R_{thJL}$	3 2	°C/W

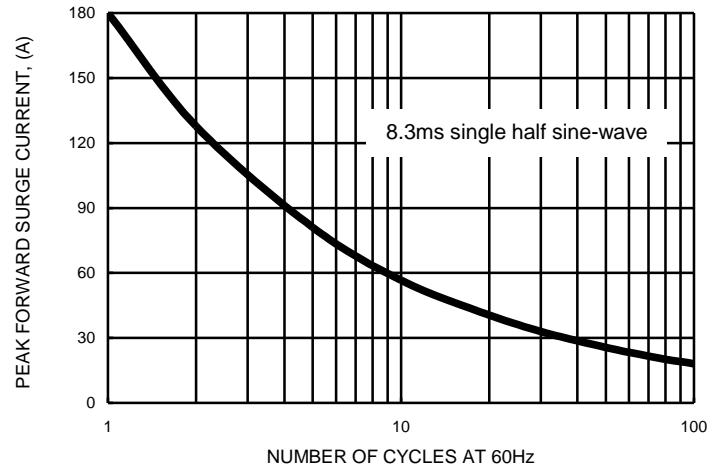
- Notes:**
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. 300us pulse width, 2% duty cycle.
  5. Measured at 1.0MHz and applied reverse voltage of 4.0  $V_{DC}$ .
  6. The unit mounted on fin-type heatsink (75mm x 100mm x 26.8mm).
  7. Thermal Resistance test performed in accordance with JESD-51.

**RATING AND CHARACTERISTIC CURVES**  
**MBRF20150CTW**

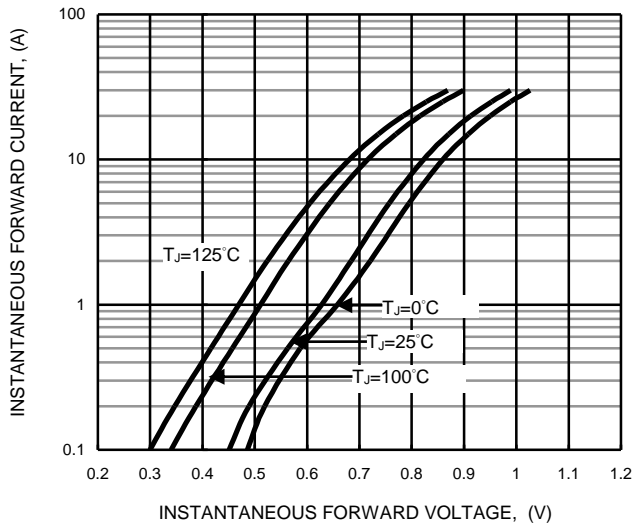
**FIG.1- FORWARD CURRENT DERATING CURVE**



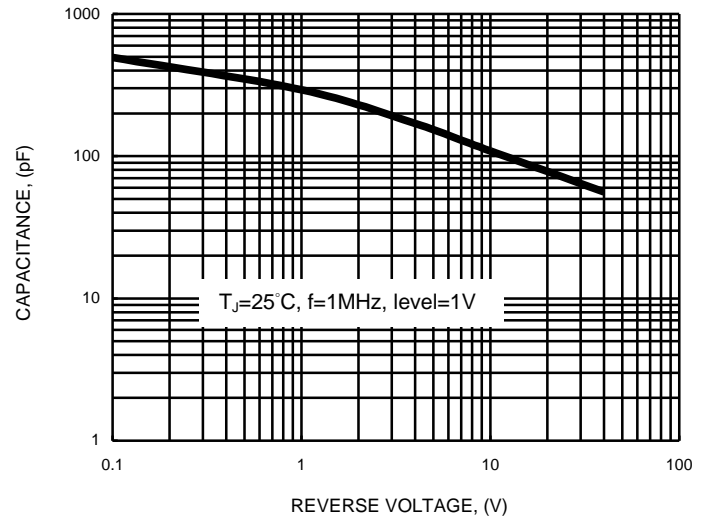
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



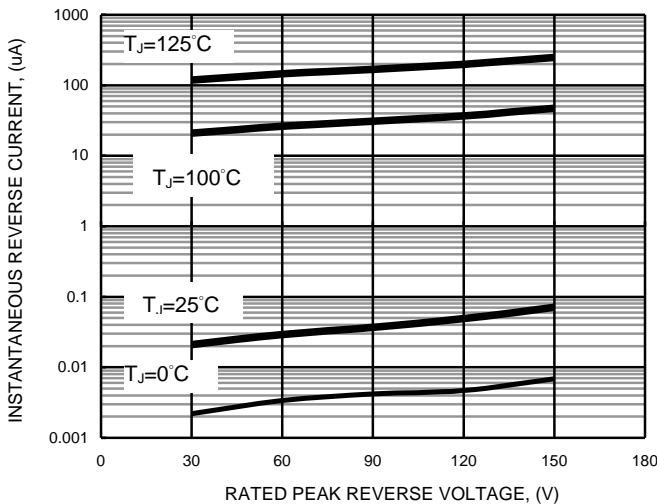
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



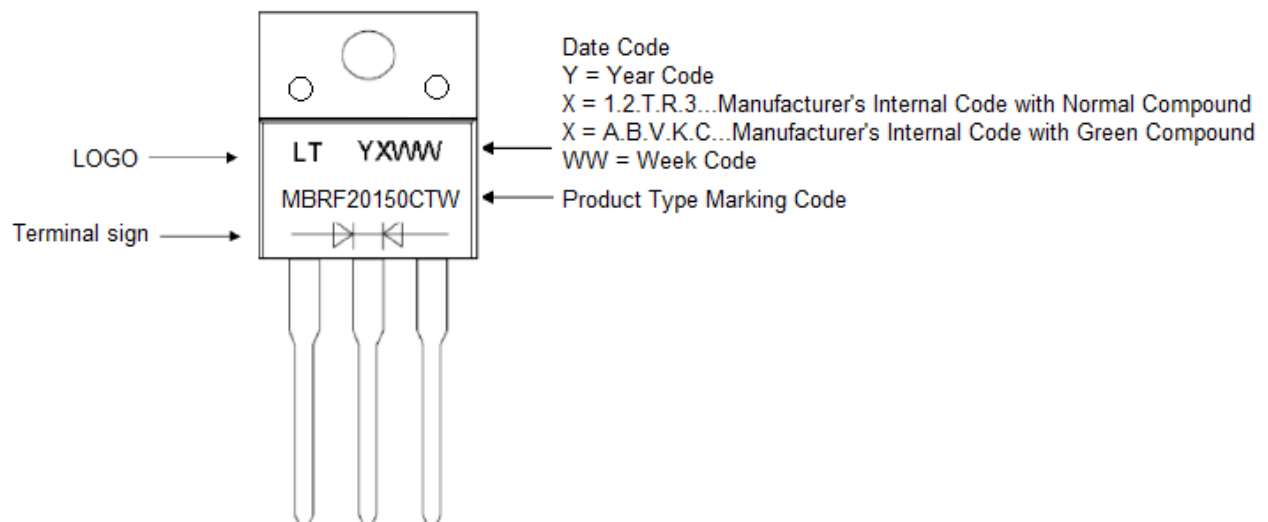
**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



## Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
MBRF20150CTW	ITO-220AB(WB)	50pcs	Tube

## Marking Information:



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