



## Data Sheet

Customer :

Product : High Power Schottky Diode

Part No.: MBRF2040CT/MBRF2060CT/MBRF20100CT/MBRF20150CT  
MBRF20200CT/MBRF20250CT

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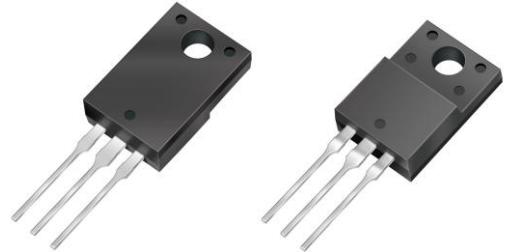


## 20 Amperes High Power Schottky Barrier Rectifiers

### Voltage : 40 to 250Volts

#### ■ Features

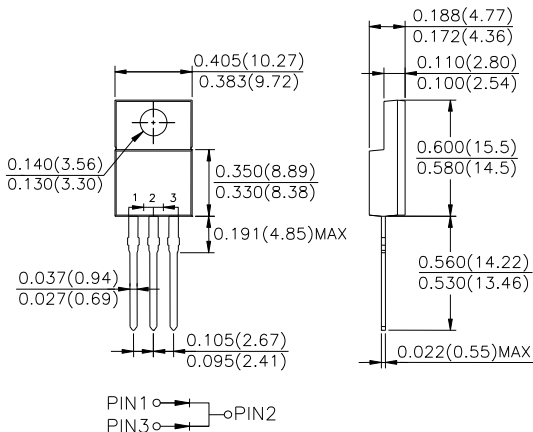
- For use in low voltage, high frequency inverters, free wheeling and polarity protection applications
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Guardring for over voltage protection
- Ultra high-speed switching
- Silicon epitaxial planar chip, metal silicon junction
- Lead-free parts meet environmental standards of MIL-STD-19500/228



#### ■ Mechanical Data

**Epoxy** : UL94-V0 rated flame retardant  
**Case** : JEDEC ITO-220AB molded plastic body over  
**Terminals** : Axial leads, Solderable per MIL-STD-202, Method 208 guaranteed  
**Polarity** : Color band denotes cathode end  
**Mounting Position** : Any  
**Weight** : Approximated 2.25 gram  
**Packaging** : 50pcs per Tube

#### ■ Package Dimensions in inches(millimeters): ITO-220AB



#### ■ Maximum Ratings And Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Parameter	Symbol	MBRF2040CT	MBRF2060CT	MBRF20100CT	MBRF20150CT	MBRF20200CT	MBRF20250CT	Unit
Marking Code		MBRF2040CT	MBRF2060CT	MBRF20100CT	MBRF20150CT	MBRF20200CT	MBRF20250CT	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	40	60	100	150	200	250	V
Maximum RMS Voltage	$V_{RMS}$	28	42	70	105	140	175	V
Maximum DC Blocking Voltage	$V_{DC}$	40	60	100	150	200	250	V
Maximum Forward Voltage@10A, $T_A=25^\circ\text{C}$	$V_F$	0.70	0.79	0.81	0.87	0.90	0.95	V
@10A, $T_A=125^\circ\text{C}$		0.57	0.70	0.71	0.77	0.80	0.85	
@20A, $T_A=25^\circ\text{C}$		0.84	0.95	0.95	1.0	1.0	-	
Operating Temperature	$T_J$	-50 ~ +150						$^\circ\text{C}$

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Forward Rectified Current	See Fig.1	$I_O$			20	A
Forward Surge Current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			150	A
Reverse Current	$V_R=V_{RRM}, T_A=25^\circ\text{C}$	$I_R$			0.1	mA
	$V_R=V_{RRM}, T_A=125^\circ\text{C}$				10	
Thermal Resistance	Junction to ambient	$R_{\theta JA}$		30		$^\circ\text{C}/\text{W}$
Diode Junction Capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		150		pF
Storage Temperature		$T_{STG}$	-50		+150	$^\circ\text{C}$

## Rated and Characteristic Curve

Fig. 1 - Forward Current Derating Curve

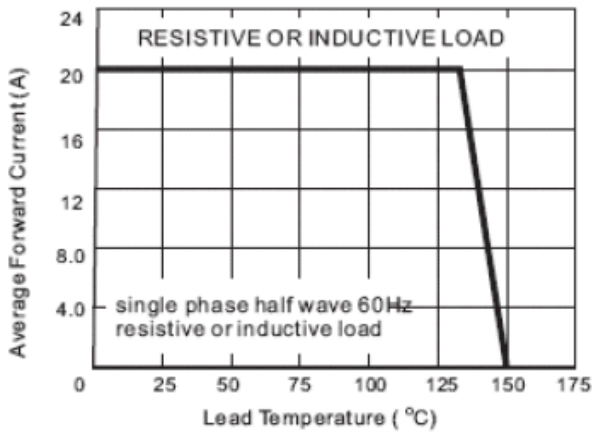


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

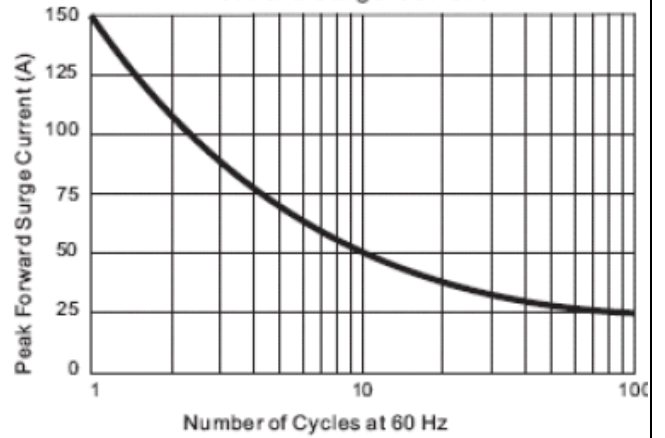


Fig. 3.1 - Typical Instantaneous Forward Characteristics

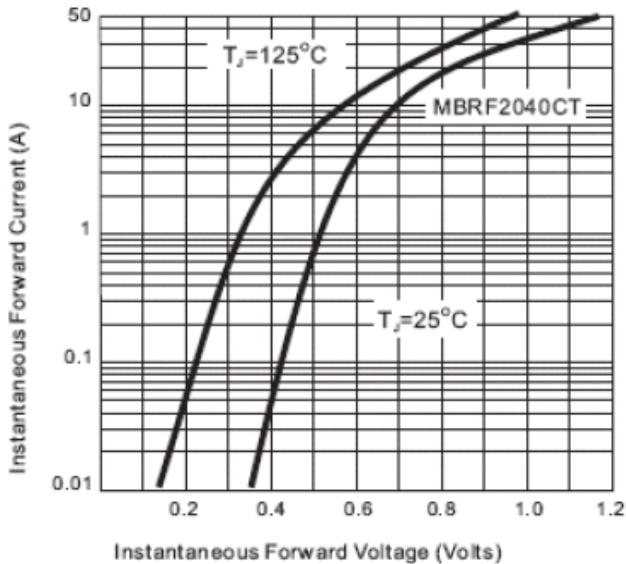


Fig. 3.2 - Typical Instantaneous Forward Characteristics

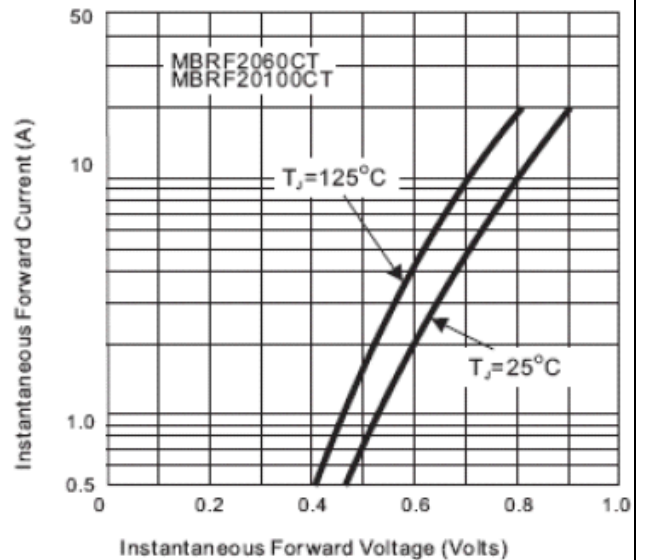


Fig. 3.3 - Typical Instantaneous Forward Characteristics

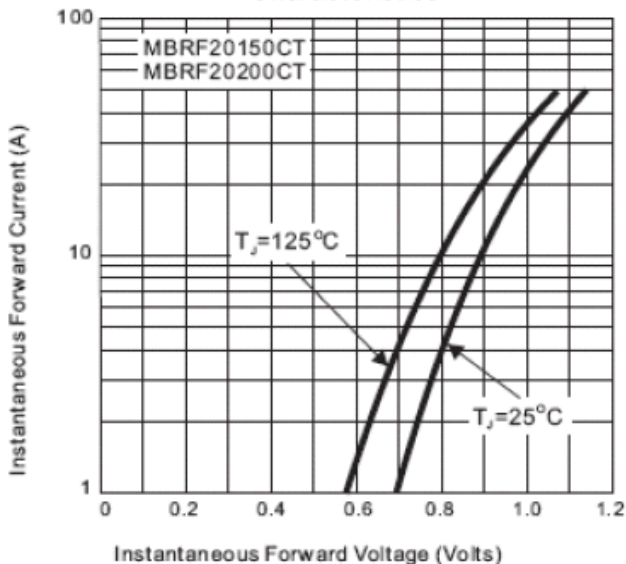


Fig. 4 - Typical Reverse Characteristics

