



## Data Sheet

Customer :

Product : High Power Schottky Diode

Part No.: MBR2040CT/MBR2060CT/MBR20100CT/MBR20150CT  
MBR20200CT/MBR20250CT

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## 20 Amperes High Power Schottky Barrier Rectifiers

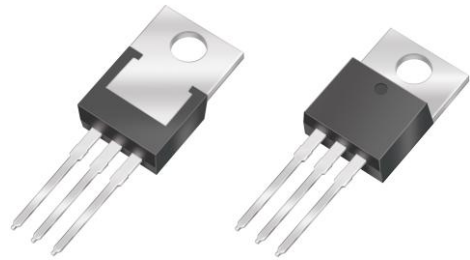
### Voltage : 40 to 250Volts

#### ■ Features

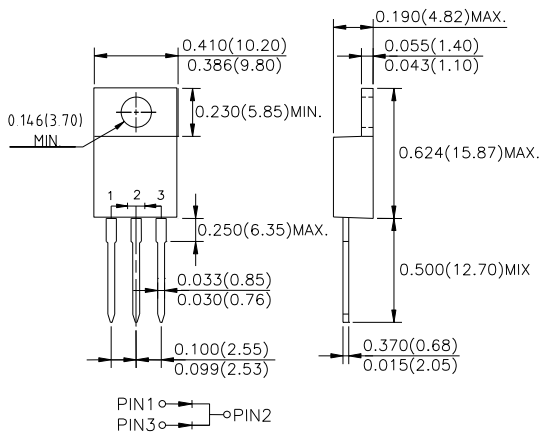
- For use in low voltage, high frequency inverters, free wheeling and polarity protection applications
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Guardring for overvoltage protection
- Ultra high-speed switching
- Silicon epitaxial 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 TO-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  
**Package :** 50pcs per Tube



#### ■ Package Dimensions in inches(millimeters): TO-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	MBR2040CT	MBR2060CT	MBR20100CT	MBR20150CT	MBR20200CT	MBR20250CT	Unit
Marking Code		MBR2040CT	MBR2060CT	MBR20100CT	MBR20150CT	MBR20200CT	MBR20250CT	
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, $T_A=25^\circ C$	$V_F$	0.70	0.79	0.81	0.87	0.90	0.95	V
@10A, $T_A=125^\circ C$		0.57	0.70	0.71	0.77	0.80	0.85	
@20A, $T_A=25^\circ C$		0.84	0.95	0.95	1.0	1.0	-	
Operating Temperature	$T_J$	-50 ~ +150						$^\circ C$

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	$V_R=V_{RRM}, T_A=25^\circ C$	$I_R$			0.1	mA
	$V_R=V_{RRM}, T_A=125^\circ C$				10	
Thermal Resistance	Junction to ambient	$R_{\theta JA}$		30		$^\circ C/W$
Diode Junction Capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		150		pF
Storage Temperature		$T_{STG}$	-50		+150	$^\circ C$

## Rated and Characteristic Curve

Fig. 1 - Forward Current Derating Curve

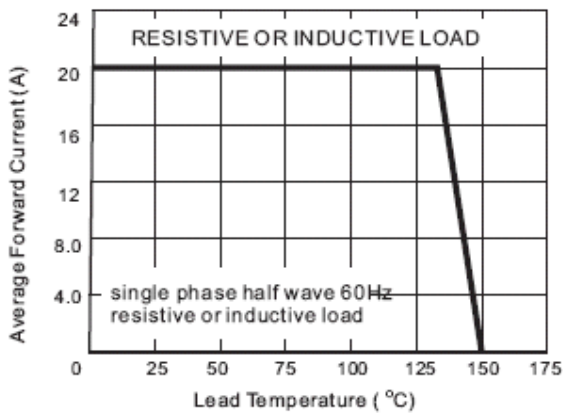


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

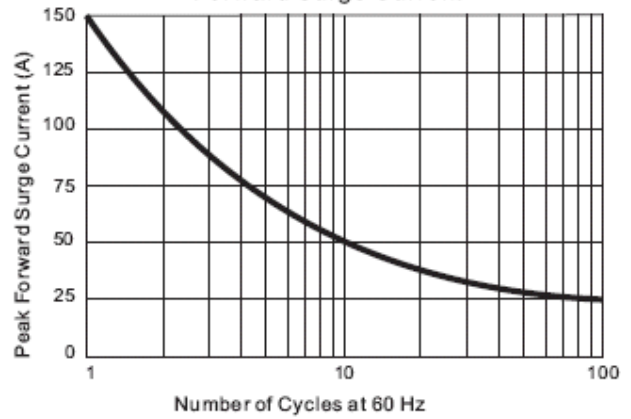


Fig. 3.1 - Typical Instantaneous Forward Characteristics

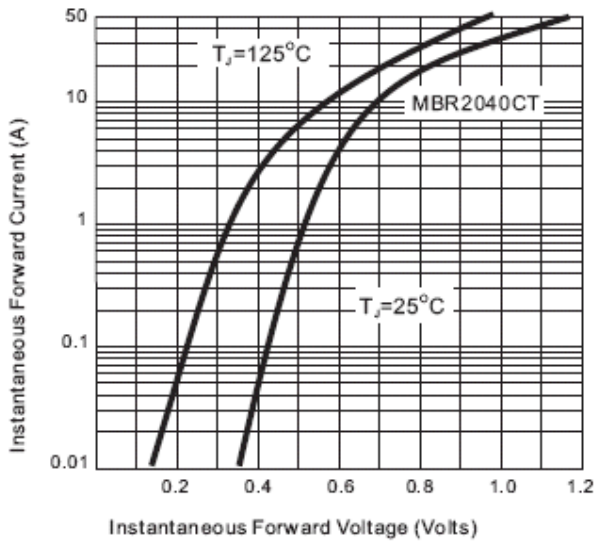


Fig. 3.2 - Typical Instantaneous Forward Characteristics

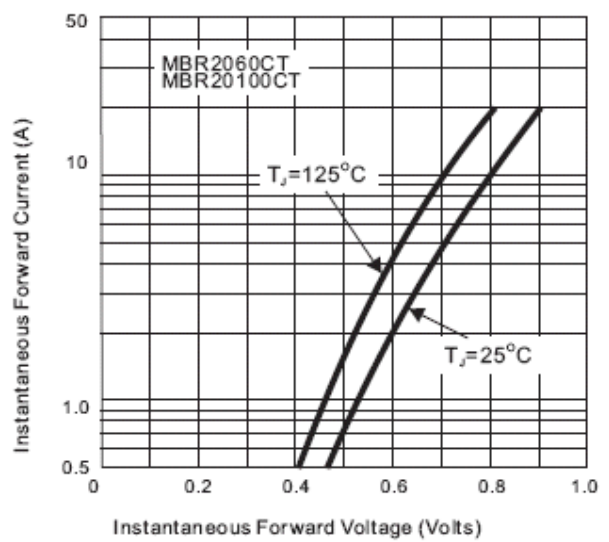


Fig. 3.3 - Typical Instantaneous Forward Characteristics

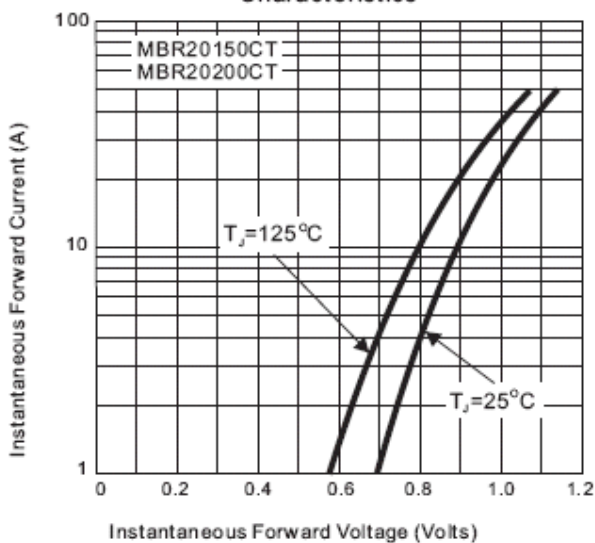


Fig. 4 - Typical Reverse Characteristics

