



## Data Sheet

Customer :

Product : High Power Schottky Diode

Part No.: MBR4040CT/MBR4060CT/MBR40100CT/MBR40150CT  
MBR40200CT/MBR0250CT

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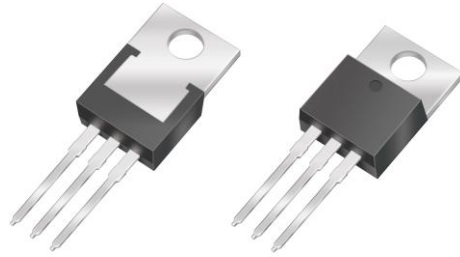


## 40 Amperes High Power Schottky Barrier Rectifiers

### Voltage : 40 to 250Volts

#### ■ Features

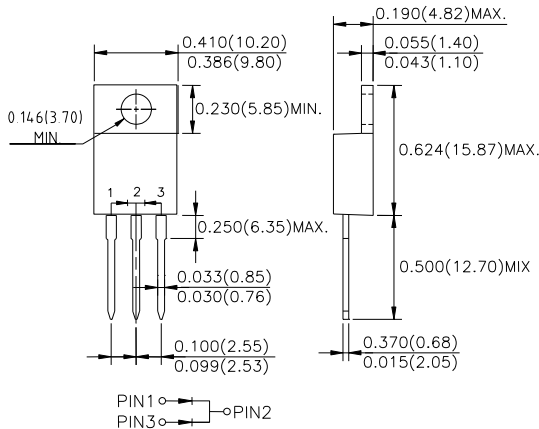
- For use in low voltage, high frequency inverters, free wheeling and polarity protection applications
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Guardring for overvoltage protection
- Ultra high-speed switching
- Silicon epitaxial 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 passivated chip  
**Lead** : Axial lead, 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): 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	MBR4040CT	MBR4060CT	MBR40100CT	MBR40150CT	MBR40200CT	MBR40250CT	Unit
Marking Code		MBR4040CT	MBR4060CT	MBR40100CT	MBR40150CT	MBR40200CT	MBR40250CT	
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 @20A, $T_A=25^\circ C$ @20A, $T_A=125^\circ C$ @40A, $T_A=25^\circ C$	$V_F$	0.70 0.57 0.84	0.79 0.70 0.95	0.81 0.71 0.95	0.87 0.77 1.0	0.90 0.80 1.0	0.95 0.85 -	V
Operating Temperature	$T_J$	-50 ~ +150						°C

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Forward Rectified Current	See Fig.1	$I_O$			40	A
Forward Surge Current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			300	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		°C/W
Diode Junction Capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		150		pF
Storage Temperature		$T_{STG}$	-50		+150	°C

## Rated and Characteristic Curve

Fig.1 - Forward Current Derating Curve

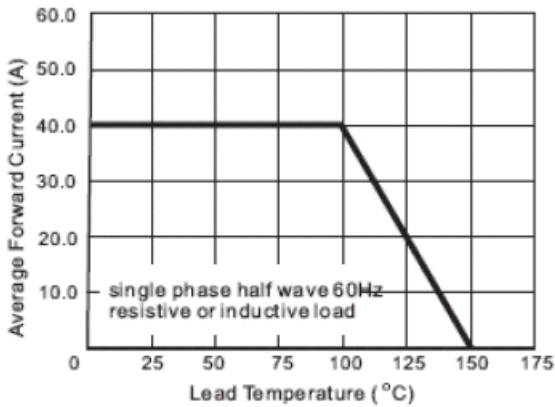


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

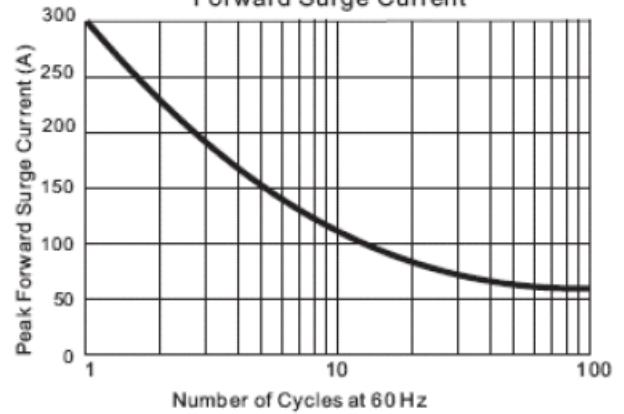


Fig. 3A - Typical Instantaneous Forward Characteristics

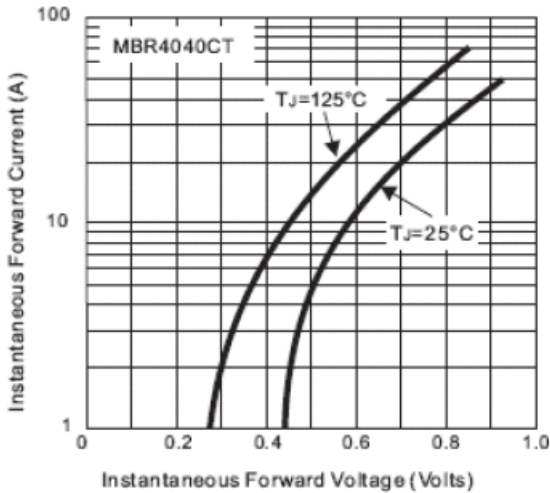


Fig. 3B - Typical Instantaneous Forward Characteristics

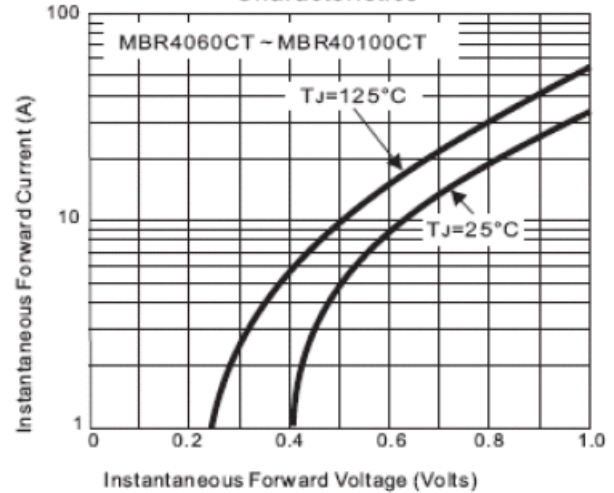


Fig. 3C - Typical Instantaneous Forward Characteristics

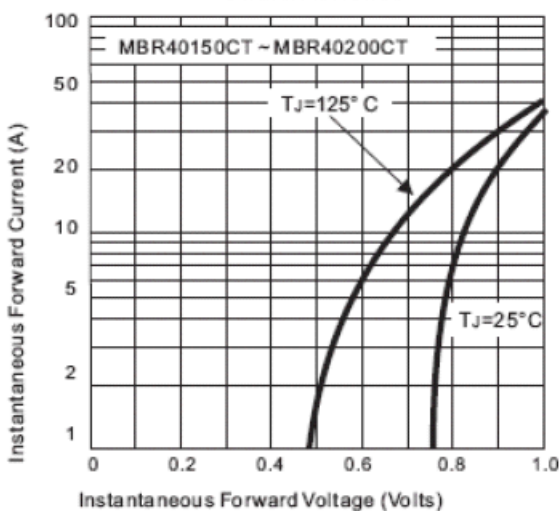


Fig. 4 - Typical Reverse Characteristics

