



Data Sheet

Customer :

Product : High Power Schottky Diode

Part No.: MBRB2040CT/MBRB2060CT/MBRB20100CT/MBRB20150CT
MBRB20200CT/MBRB20250CT

Issued Date: 11-Jan-11

Edition : REV.A



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11-Jan-11	11-Jan-11	11-Jan-11	11-Jan-11	
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20 Amperes Surface Mount 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

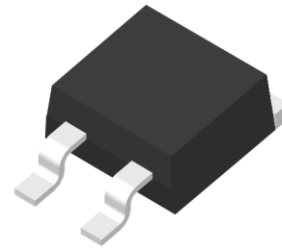
Case : Molded plastic, TO-263/D²PAK

Terminals : Solder plated, Solderable per MIL-STD-750, Method 2026

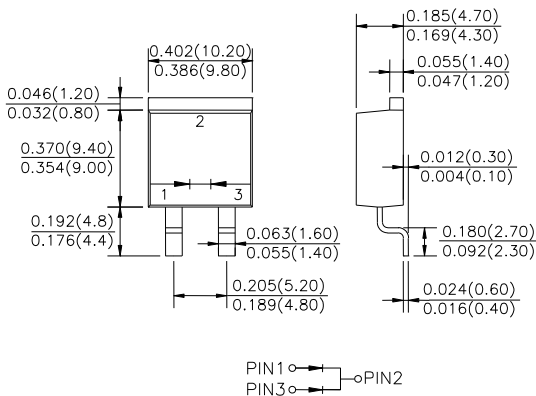
Polarity : Indicated by cathode end

Mounting Position : Any

Weight : Approximated 1.70 gram



■ Package Dimensions in millimeters(inches): TO-263/ D²PAK



■ 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	MBRB2040CT	MBRB2060CT	MBRB20100CT	MBRB20150CT	MBRB20200CT	MBRB20250CT	Unit
Marking Code		MBRB2040CT	MBRB2060CT	MBRB20100CT	MBRB20150CT	MBRB20200CT	MBRB20250CT	
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, $T_A=25^\circ\text{C}$ @10A, $T_A=125^\circ\text{C}$ @20A, $T_A=25^\circ\text{C}$	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			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		°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

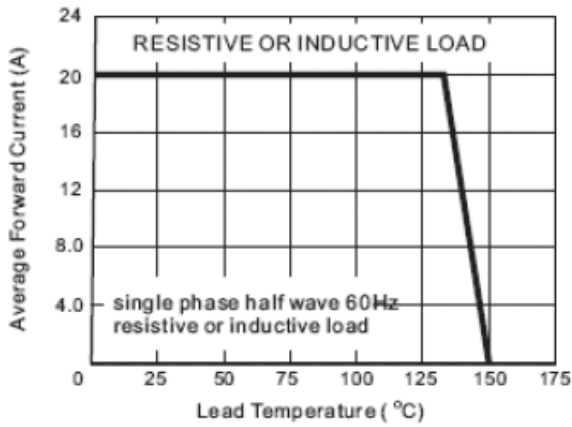


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

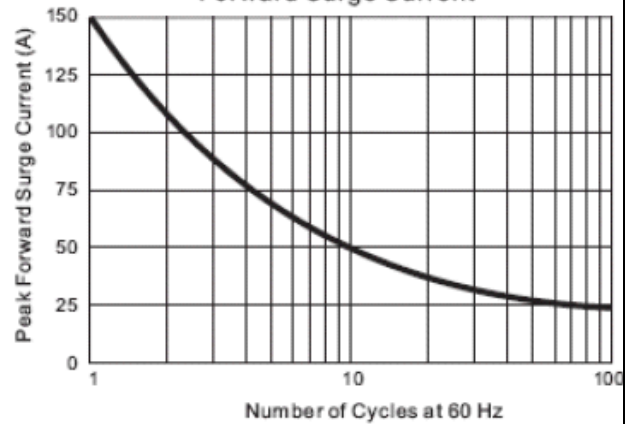


Fig. 3.1 - Typical Instantaneous Forward Characteristics

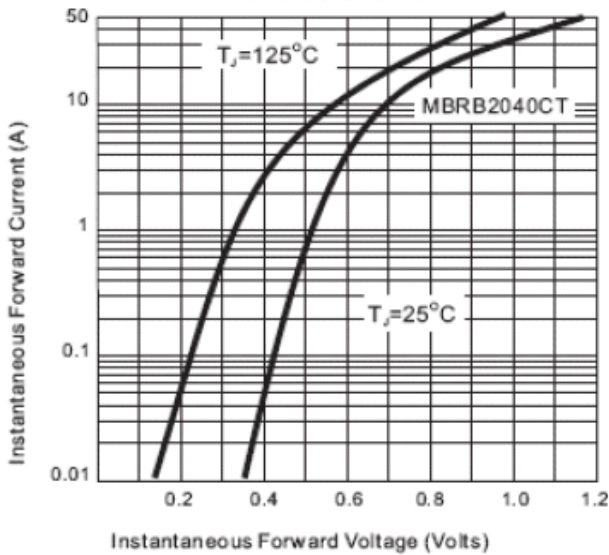


Fig. 3.2 - Typical Instantaneous Forward Characteristics

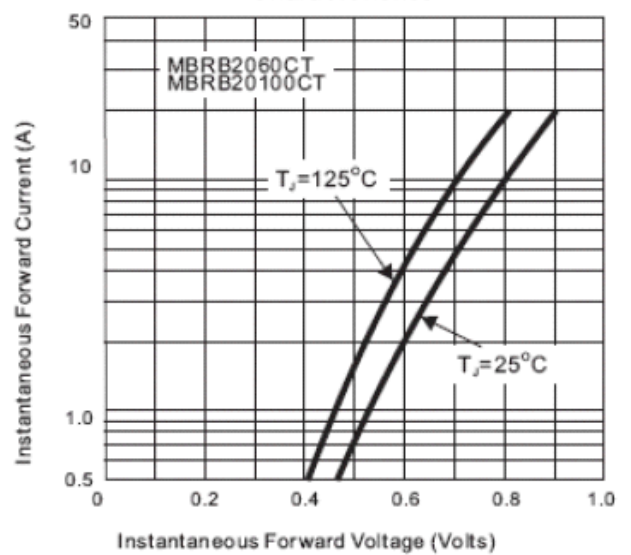


Fig. 3.3 - Typical Instantaneous Forward Characteristics

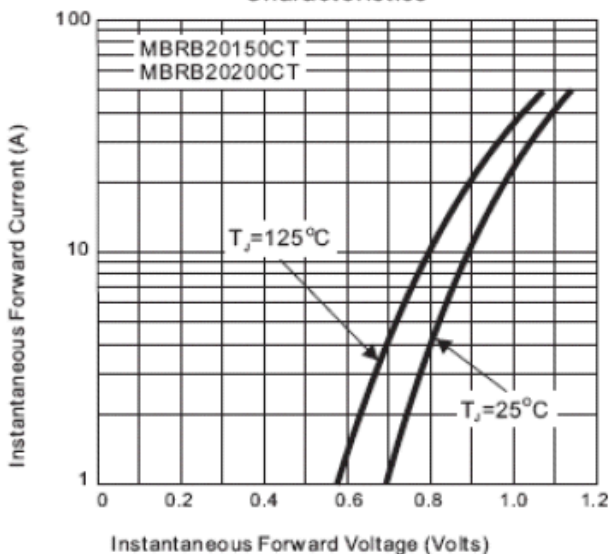


Fig. 4 - Typical Reverse Characteristics

