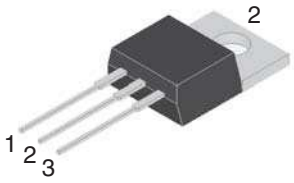
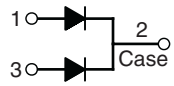
20.0 Amp. Schottky Barrier Rectifier

TO-220AB





Common Cathode
Suffix "C"

Voltage	Current
45 to 200 V	20.0 A

FEATURES

- Ideal for automated placement
- Low power losses, high efficiency
- High surge current capability
- Guarding for overvoltage protection
- Low forward voltage drop
- Solder dip 260ºC, 10s / 0.25" (6.35 mm) from case
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260º C

Pb

e3

RoHS COMPLIANT

MECHANICAL DATA

- **Case:** TO-220AB. Epoxy meets UL 94V-0 flammability rating.
- **Polarity:** As marked on the body.
- **Mounting Torque:** 5 in-lbs maximum.
- **Terminals:** Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test.

TYPICAL APPLICATIONS

Used in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.

Maximun Ratings and Electrical Characteristics at 25°C

		MBR2045CT	MBR2060CT	MBR20100CT	MBR20200CT
Marking Code		MBR2045CT	MBR2060CT	MBR20100CT	MBR20200CT
V_{RRM}	Peak recurrent reverse voltage (V)	45	60	100	200
V_{RMS}	Maximum RMS voltage (V)	31	42	70	140
V_{DC}	Maximum DC blocking voltage (V)	45	60	100	200
$I_{F\ (AV)}$	Maximum average Forward current at Tc= 135 °C (both diodes conducting)	20 A			
I_{FSM}	8.3 ms. peak forward surge current (Jedec Method)	150 A			
I_{RRM}	Peak repetitive reverse surge current	1.0 A	0.5 A		
T_j	Operating temperature range	– 65 to + 150 °C			
T_{stg}	Storage temperature range	– 65 to + 175 °C			

Electrical Characteristics at Tamb = 25 °C

V_F	Max. forward voltage drop at I_F = 10 A (Note 1)	Tc = 25 °C	--	0.80 V	0.85 V	0.99 V
		Tc = 125 °C	0.57 V	0.70 V	0.75 V	0.87 V
	Max. forward voltage drop at I_F = 20 A	Tc = 25 °C	0.84 V	0.95 V	0.95 V	1.23 V
		Tc = 125 °C	0.72 V	0.85 V	0.85 V	1.10 V
I_R	Max. Instantaneous reverse current at $V_R = V_{RRMax}$ (Note 3)	Tc = 25 °C	0.10 mA			
		Tc = 125 °C	15.0 mA	10.0 mA	5.0 mA	0.15 mA
R_{thj-C}	Typical Thermal Resistance (Note 2)		1.0 °C/W		2.0 °C/W	

Notes: 1. Pulse Test: 300µ Pulse Width, 1% Duty Cycle
2. Thermal Resistance from Junction to Case per diode
3. Pulse test: Pulse width ≤ 40ms

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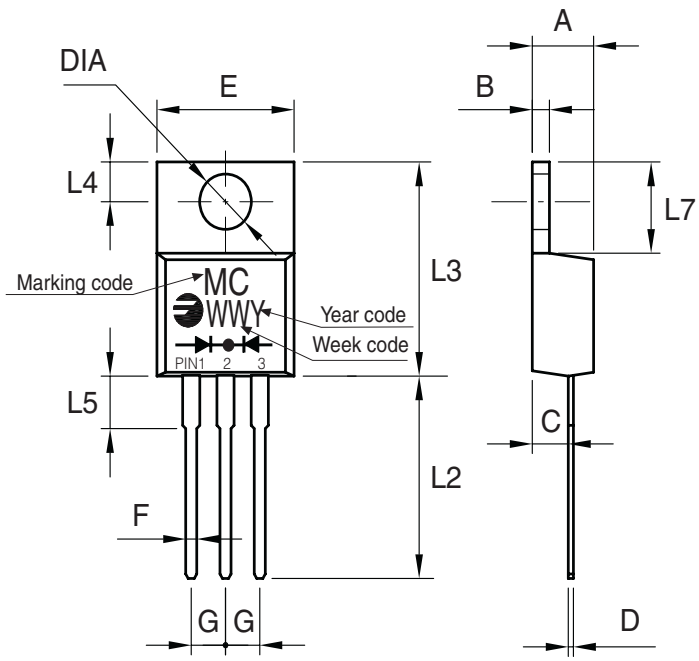
Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
MBR2060CTC 00TUC	TU	TUBE	2,000	1.90

Package Outline Dimensions: (mm) TO-220AB



REF.	DIMENSIONS Milimeters	
	Min.	Max.
A	4.44	4.76
B	1.14	1.40
C	2.54	2.80
D	0.35	0.64
E	--	10.50
F	0.68	0.94
G	2.41	2.67
L2	13.46	14.22
L3	14.90	16.00
L4	2.62	3.44
L5	3.56	4.20
L7	5.84	6.86
DIA	3.74	3.91

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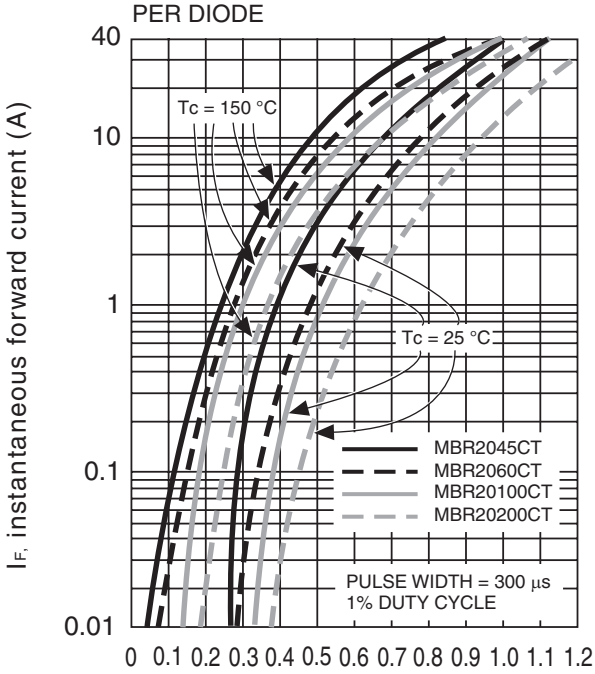
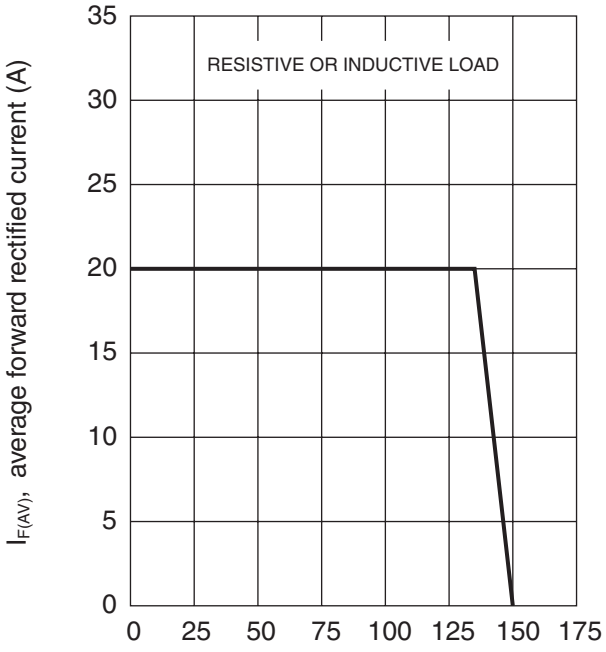
Ratings and Characteristics (Ta 25 ºC unless otherwise noted)

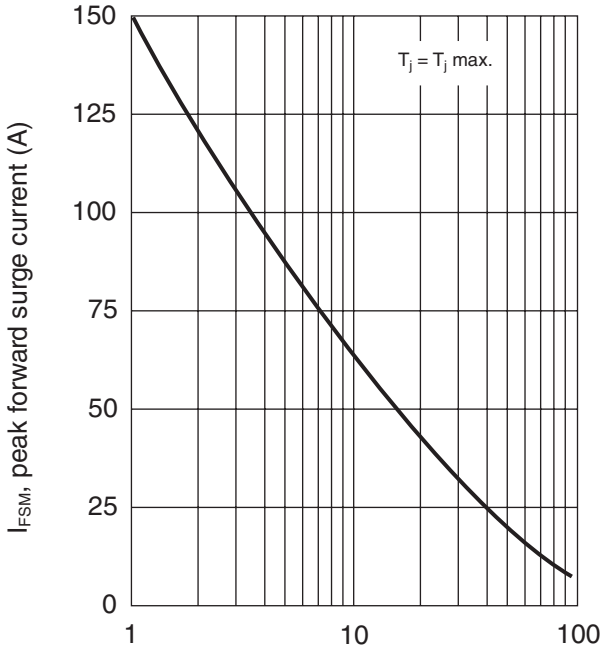
TYPICAL FORWARD CHARACTERISTIC PER DIODE



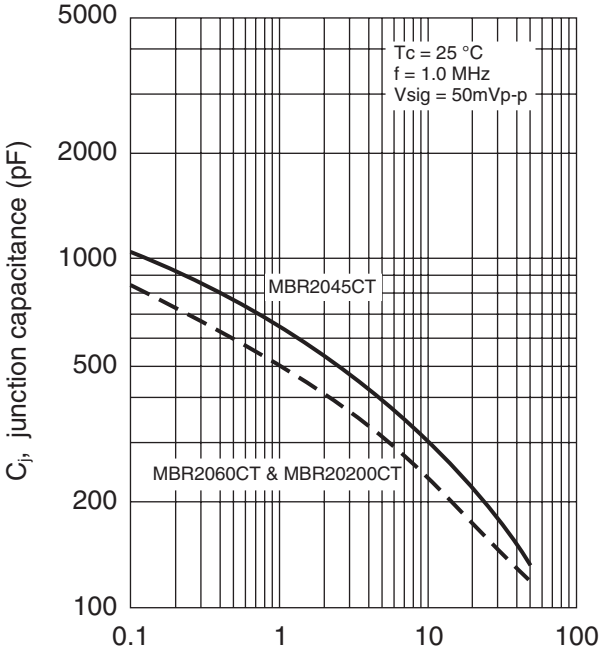
FORWARD CURRENT DERATING CURVE



MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER DIODE



TYPICAL JUNCTION CAPACITANCE PER DIODE



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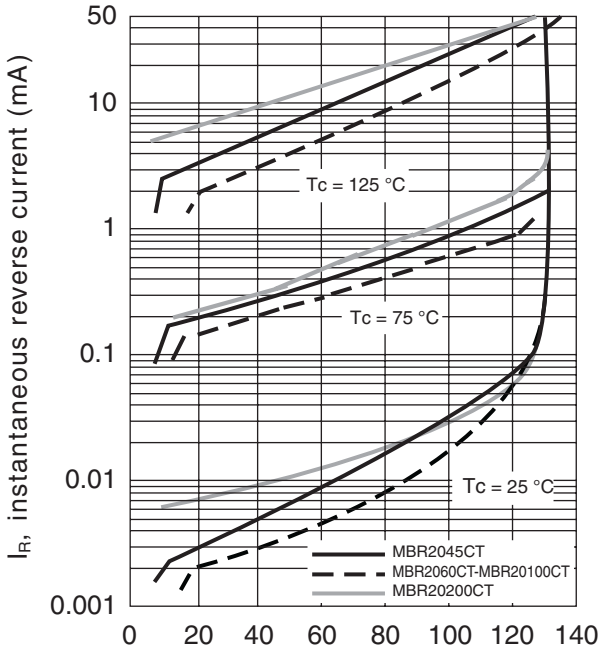
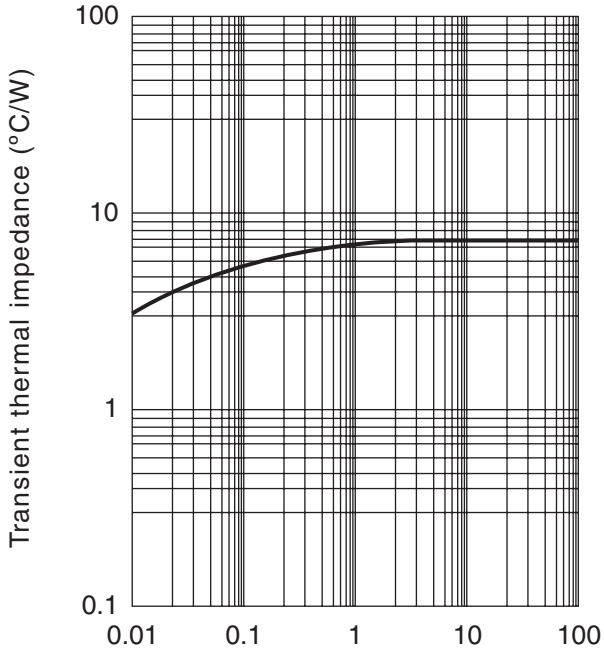
Ratings and Characteristics (Ta 25 ºC unless otherwise noted)

TYPICAL REVERSE CHARACTERISTIC PER DIODE



TYPICAL TRANSIENT THERMAL IMPEDANCE PER DIODE



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