

10.0 Amp. Schottky Barrier Rectifier

<p>TO-220AB</p> <p style="text-align: center;">Common Cathode Suffix "C"</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Voltage 45 to 200 V</td> <td style="text-align: center;">Current 10.0 A</td> </tr> <tr> <td colspan="2"> <p>FEATURES</p> <ul style="list-style-type: none"> Ideal for automated placement Low power losses, high efficiency High surge current capability Guarding for overvoltage protection Low forward voltage drop Solder dip 260°C, 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 260° C </td> </tr> <tr> <td colspan="2"> <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> 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. </td> </tr> <tr> <td colspan="2"> <p>TYPICAL APPLICATIONS</p> <p>Used in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.</p> </td> </tr> </table>	Voltage 45 to 200 V	Current 10.0 A	<p>FEATURES</p> <ul style="list-style-type: none"> Ideal for automated placement Low power losses, high efficiency High surge current capability Guarding for overvoltage protection Low forward voltage drop Solder dip 260°C, 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 260° C 		<p>MECHANICAL DATA</p> <ul style="list-style-type: none"> 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. 		<p>TYPICAL APPLICATIONS</p> <p>Used in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.</p>	
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RoHS
COMPLIANT

Maximum Ratings and Electrical Characteristics at 25°C

Marking Code		MBR1045CT	MBR1060CT	MBR10100CT	MBR10200CT
		MBR1045CT	MBR1060CT	MBR10100CT	MBR10200CT
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 $T_c = 125^\circ\text{C}$ (both diodes conducting)	10 A			
I_{FSM}	8.3 ms. peak forward surge current (Jedec Method)	120 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 $T_{amb} = 25^\circ\text{C}$

V_F	Max. forward voltage drop at $I_F = 5\text{ A}$ (Note 1)	$T_c = 25^\circ\text{C}$	0.70 V	0.80 V	0.85 V	0.88 V
		$T_c = 125^\circ\text{C}$	0.57 V	0.65 V	0.75 V	0.78 V
	Max. forward voltage drop at $I_F = 10\text{ A}$	$T_c = 25^\circ\text{C}$	0.80 V	0.90 V	0.95 V	0.98 V
		$T_c = 125^\circ\text{C}$	0.67 V	0.75 V	0.85 V	0.88 V
I_R	Max. Instantaneous reverse current at $V_R = V_{RRMax}$ (Note 3)	$T_c = 25^\circ\text{C}$	0.10 mA			
		$T_c = 125^\circ\text{C}$	15.0 mA	10.0 mA	2.0 mA	5.0 mA
R_{thj-c}	Typical Thermal Resistance (Note 2)	1.5 °C/W				

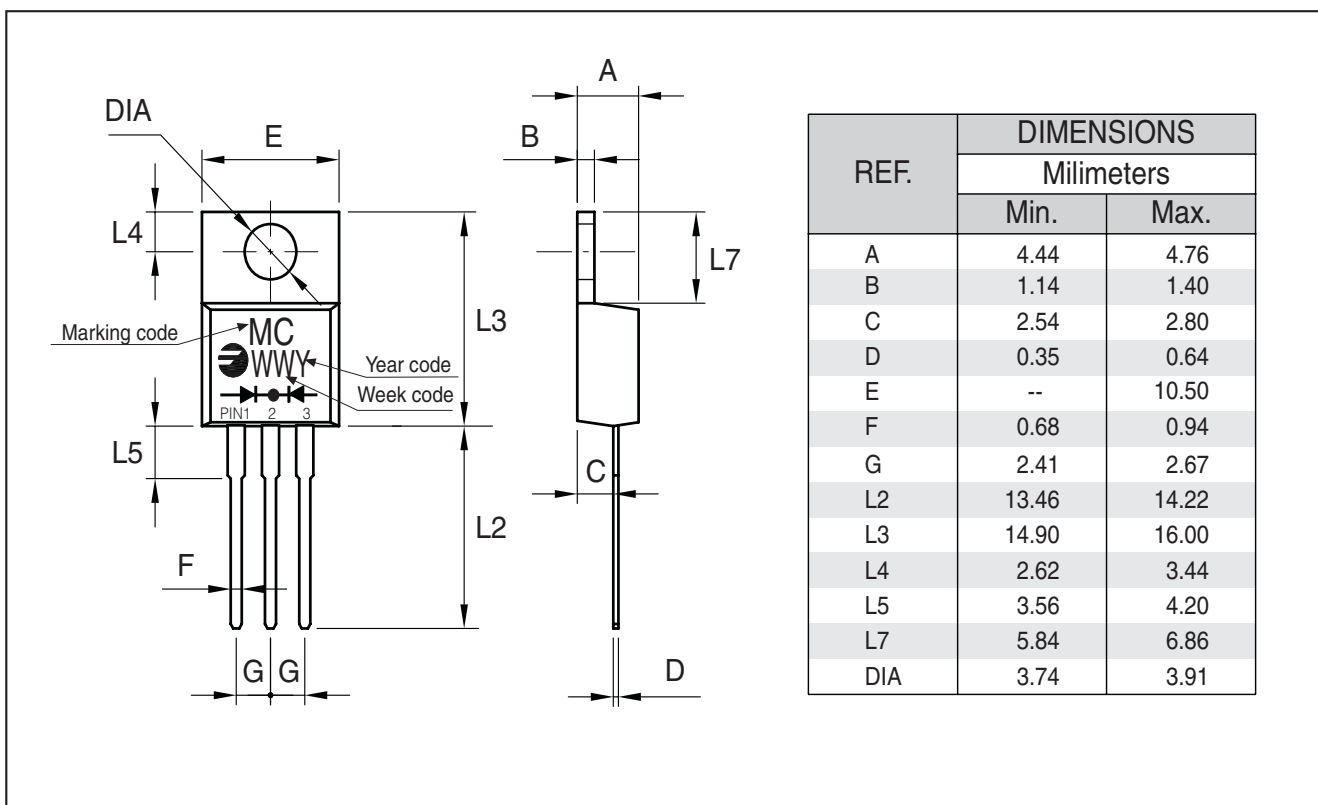
Notes: 1. Pulse Test: 300µ Pulse Width, 1% Duty Cycle
 2. Thermal Resistance from Junction to Case per diode
 3. Pulse test: Pulse width $\leq 40\text{ms}$

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Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
MBR1060CTC 00TUC	TU	TUBE	2,000	1.88

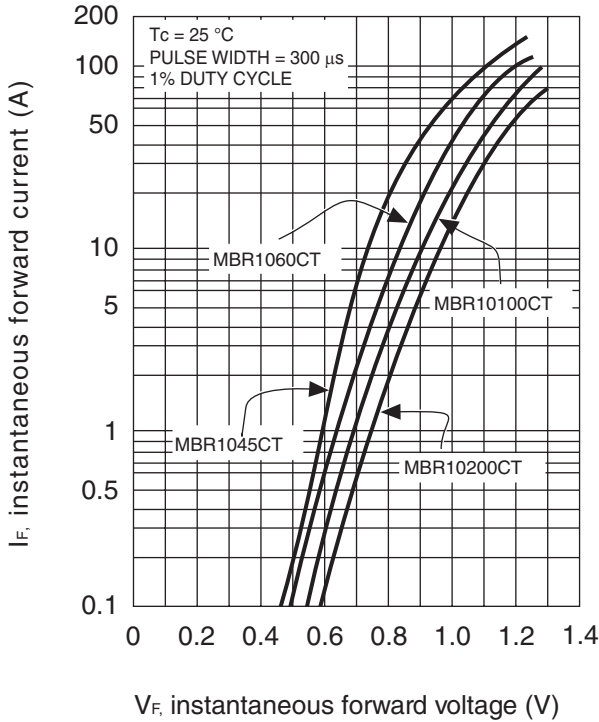
Package Outline Dimensions: (mm) TO-220AB



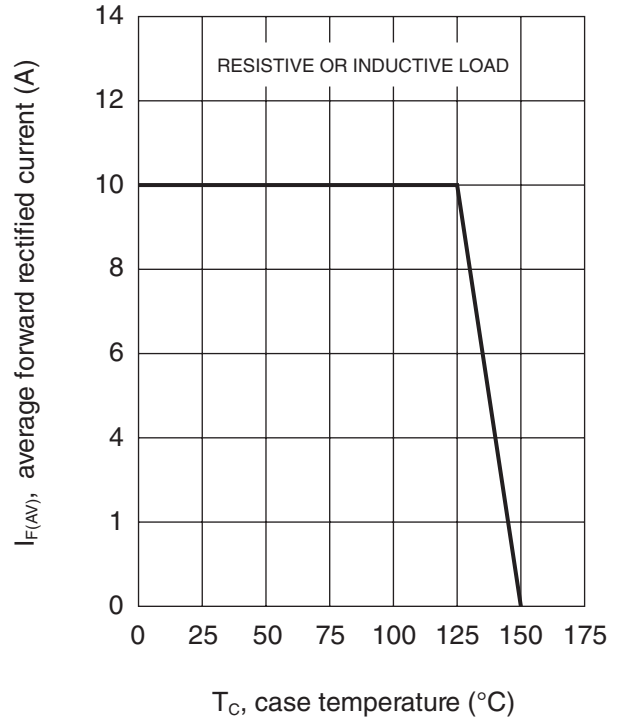
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Ratings and Characteristics (Ta 25 °C unless otherwise noted)

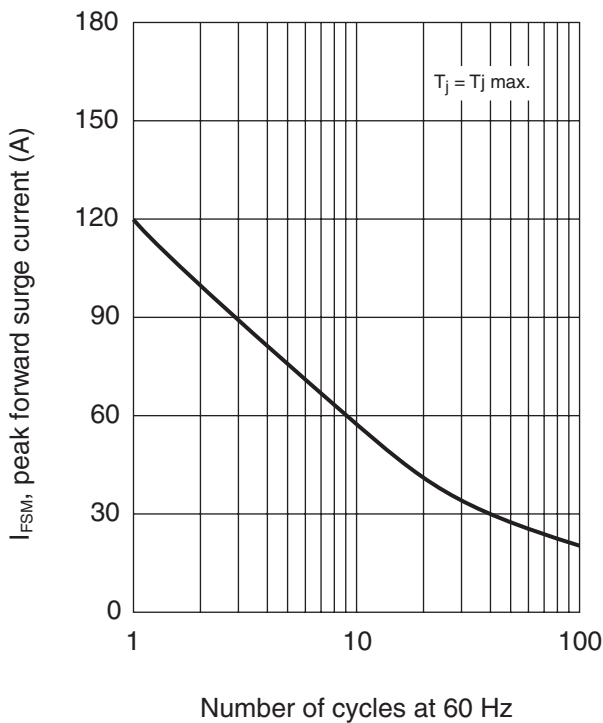
TYPICAL FORWARD CHARACTERISTIC PER DIODE



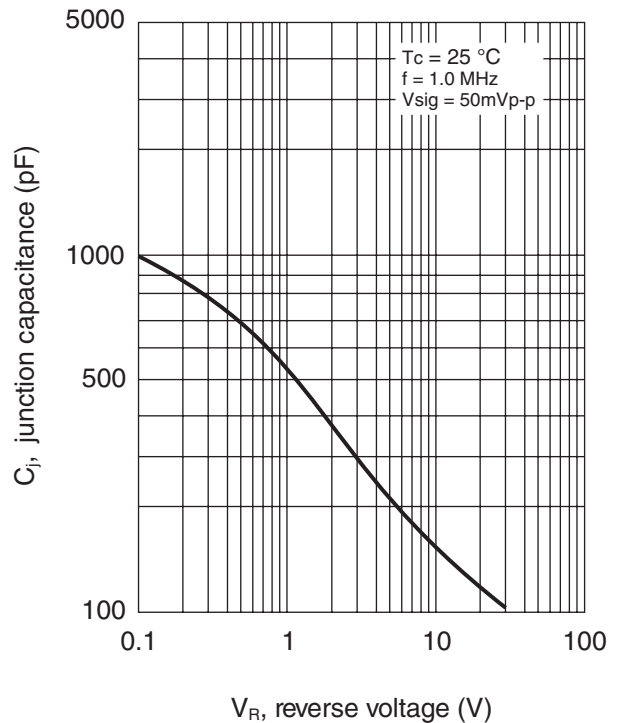
FORWARD CURRENT DERATING CURVE



MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER DIODE



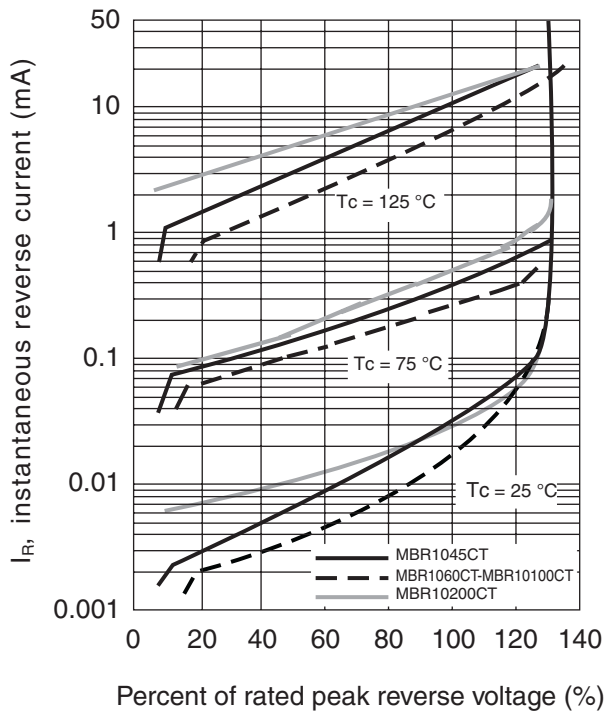
TYPICAL JUNCTION CAPACITANCE PER DIODE



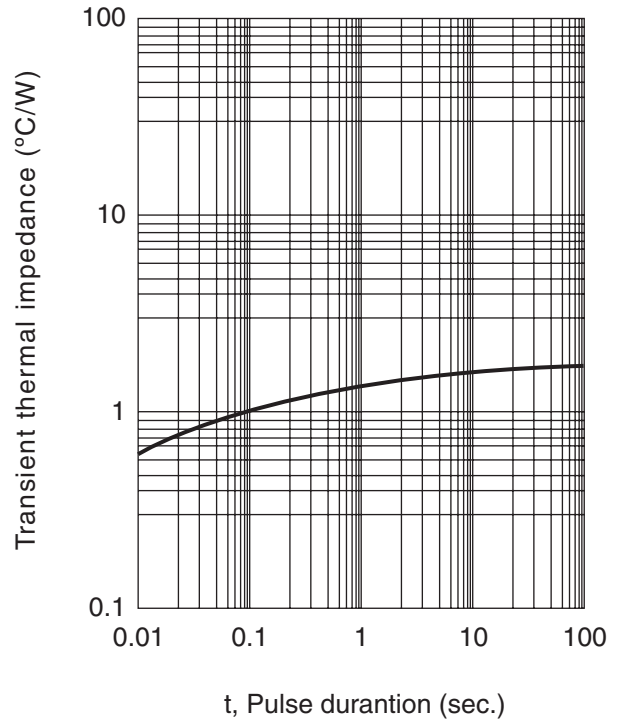
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Ratings and Characteristics (Ta 25 °C unless otherwise noted)

TYPICAL REVERSE CHARACTERISTIC PER DIODE



TYPICAL TRANSIENT THERMAL IMPEDANCE PER DIODE



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