



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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MBR2060CT, MBR2080CT, MBR2090CT, MBR20100CT

MBR2060CT and MBR20100CT are Preferred Devices

SWITCHMODE™ Power Rectifiers

This series uses the Schottky Barrier principle with a platinum barrier metal. These state-of-the-art devices have the following features:

Features

- 20 A Total (10 A Per Diode Leg)
- Guard-Ring for Stress Protection
- Low Forward Voltage
- 175°C Operating Junction Temperature
- Epoxy Meets UL 94 V-0 @ 0.125 in
- Low Power Loss/High Efficiency
- High Surge Capacity
- Low Stored Charge Majority Carrier Conduction
- Shipped 50 units per plastic tube
- Pb-Free Packages are Available*

Mechanical Characteristics:

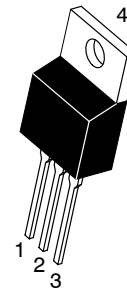
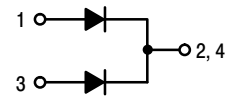
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes:
260°C Max. for 10 Seconds



ON Semiconductor®

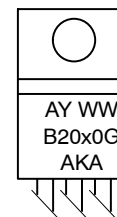
<http://onsemi.com>

SCHOTTKY BARRIER RECTIFIERS 20 AMPERES 60–100 VOLTS



TO-220AB
CASE 221A
PLASTIC

MARKING DIAGRAM



A = Assembly Location
Y = Year
WW = Work Week
B20x0 = Device Code
x = 6, 8, 9 or 10
G = Pb-Free Device
AKA = Polarity Designator

ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 2 of this data sheet.

Preferred devices are recommended choices for future use and best overall value.

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

MBR2060CT, MBR2080CT, MBR2090CT, MBR20100CT

MAXIMUM RATINGS (Per Diode Leg)

Rating	Symbol	MBR				Unit
		2060CT	2080CT	2090CT	20100CT	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	60	80	90	100	V
Average Rectified Forward Current (Rated V_R) $T_C = 133^\circ\text{C}$	$I_{F(AV)}$	10				A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 kHz) $T_C = 133^\circ\text{C}$	I_{FRM}	20				A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	150				A
Peak Repetitive Reverse Surge Current (2.0 μs , 1.0 kHz)	I_{RRM}	0.5				A
Operating Junction Temperature (Note 1)	T_J	-65 to +175				$^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +175				$^\circ\text{C}$
Voltage Rate of Change (Rated V_R)	dv/dt	10,000				V/ μs

THERMAL CHARACTERISTICS

Maximum Thermal Resistance Junction-to-Case Junction-to-Ambient	$R_{\theta JC}$ $R_{\theta JA}$	2.0 60	$^\circ\text{C}/\text{W}$
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ELECTRICAL CHARACTERISTICS (Per Diode Leg)

Maximum Instantaneous Forward Voltage (Note 2) ($i_F = 10$ Amps, $T_C = 125^\circ\text{C}$) ($i_F = 10$ Amps, $T_C = 25^\circ\text{C}$) ($i_F = 20$ Amps, $T_C = 125^\circ\text{C}$) ($i_F = 20$ Amps, $T_C = 25^\circ\text{C}$)	v_F	0.75 0.85 0.85 0.95	V
Maximum Instantaneous Reverse Current (Note 2) (Rated dc Voltage, $T_C = 125^\circ\text{C}$) (Rated dc Voltage, $T_C = 125^\circ\text{C}$ - MBR2060CT only) (Rated dc Voltage, $T_C = 25^\circ\text{C}$)	i_R	6.0 20 0.1	mA

- The heat generated must be less than the thermal conductivity from Junction-to-Ambient: $dP_D/dT_J < 1/R_{\theta JA}$.
- Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

ORDERING INFORMATION

Device	Package	Shipping†
MBR2060CT	TO-220	50 Units / Rail
MBR2060CTG	TO-220 (Pb-Free)	
MBR2080CT	TO-220	50 Units / Rail
MBR2080CTG	TO-220 (Pb-Free)	
MBR2090CT	TO-220	50 Units / Rail
MBR2090CTG	TO-220 (Pb-Free)	
MBR20100CT	TO-220	50 Units / Rail
MBR20100CTG	TO-220 (Pb-Free)	

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

MBR2060CT, MBR2080CT, MBR2090CT, MBR20100CT

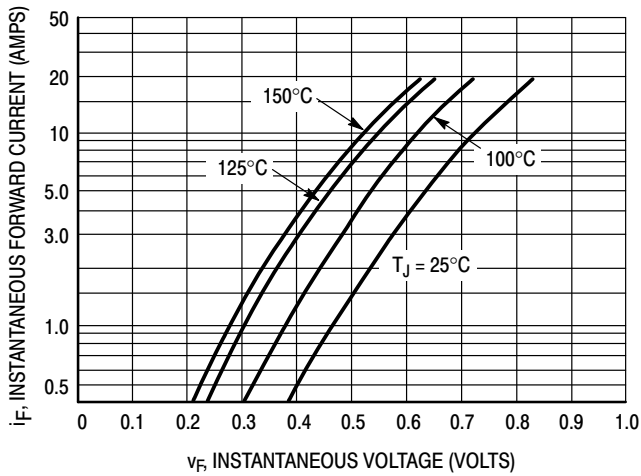


Figure 1. Typical Forward Voltage Per Diode

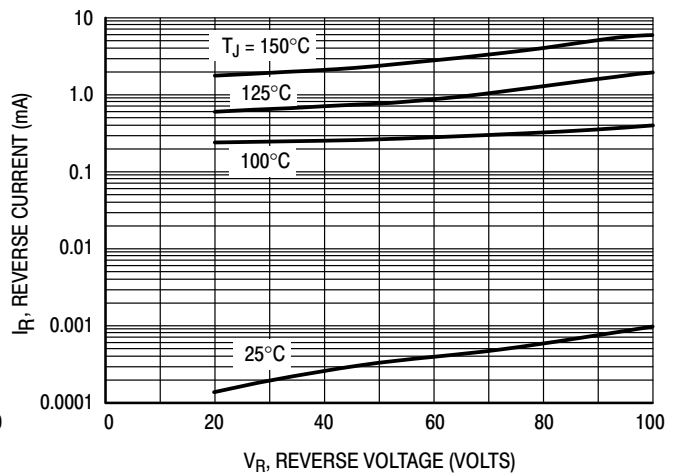


Figure 2. Typical Reverse Current Per Diode

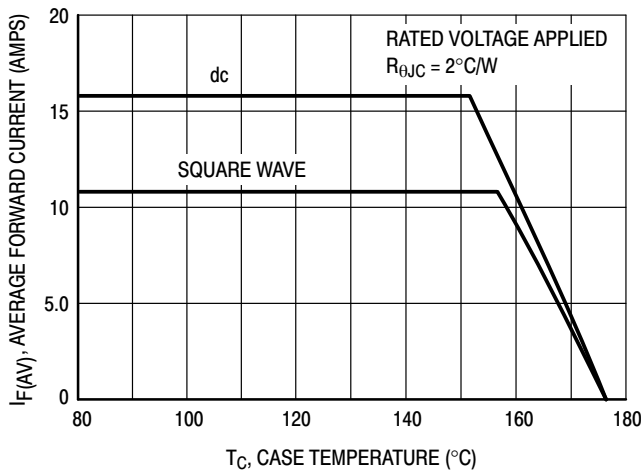


Figure 3. Typical Current Derating, Case, Per Leg

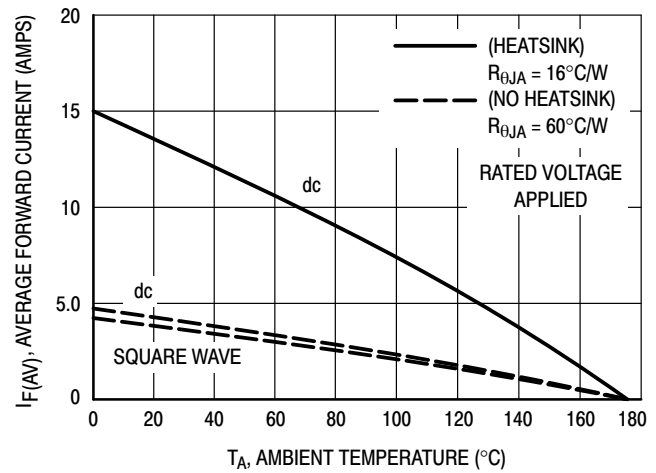


Figure 4. Typical Current Derating, Ambient, Per Leg

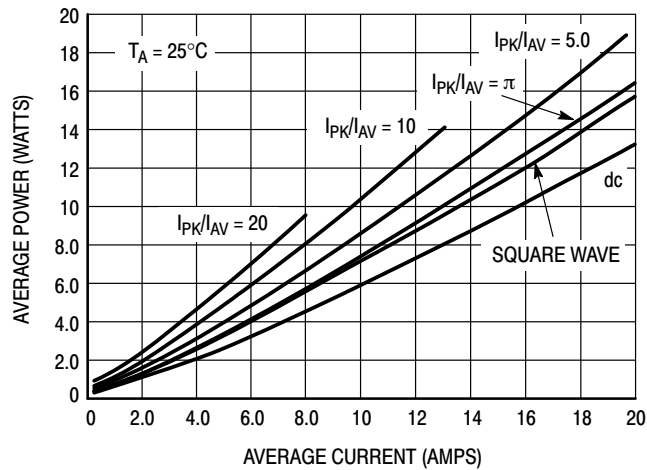
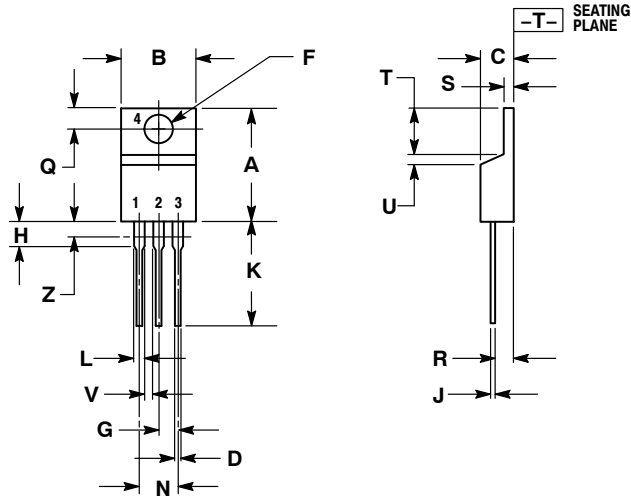


Figure 5. Average Power Dissipation and Average Current

MBR2060CT, MBR2080CT, MBR2090CT, MBR20100CT

PACKAGE DIMENSIONS

TO-220
CASE 221A-09
ISSUE AF



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.161	3.61	4.09
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.014	0.025	0.36	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	---	1.15	---
Z	---	0.080	---	2.04

STYLE 6:

1. ANODE
2. CATHODE
3. ANODE
4. CATHODE

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