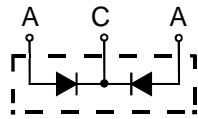
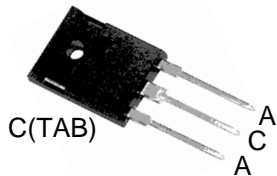


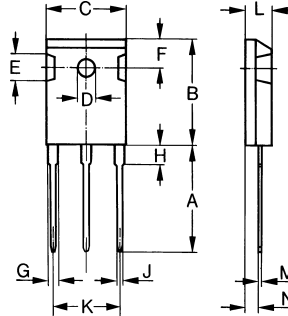
# MBR30100PT thru MBR30200PT

Wide Temperature Range and High  $T_{jm}$  Schottky Barrier Rectifiers



A=Anode, C=Cathode, TAB=Cathode

Dimensions TO-247AD



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102

	$V_{RRM}$	$V_{RMS}$	$V_{DC}$
	V	V	V
<b>MBR30100PT</b>	100	70	100
<b>MBR30150PT</b>	150	105	150
<b>MBR30200PT</b>	200	140	200

Symbol	Characteristics	Maximum Ratings	Unit
$I_{(AV)}$	Maximum Average Forward Rectified Current @ $T_c=125^\circ\text{C}$	30	A
$I_{FSM}$	Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD)	250	A
$dv/dt$	Voltage Rate Of Change (Rated $V_R$ )	10000	V/us
$V_F$	Maximum Forward Voltage (Note 1)	$I_F=15A$ @ $T_J=25^\circ\text{C}$ 0.85 $I_F=15A$ @ $T_J=125^\circ\text{C}$ 0.70 $I_F=30A$ @ $T_J=25^\circ\text{C}$ 0.98 $I_F=30A$ @ $T_J=125^\circ\text{C}$ 0.85	V
$I_R$	Maximum DC Reverse Current At Rated DC Blocking Voltage	$@T_J=25^\circ\text{C}$ 0.05 $@T_J=125^\circ\text{C}$ 10	mA
$R_{\theta JC}$	Typical Thermal Resistance (Note 2)	2.2	$^\circ\text{C}/\text{W}$
$C_J$	Typical Junction Capacitance Per Element (Note 3)	700	pF
$T_J$	Operating Temperature Range	-55 to +150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

NOTES: 1. 300us Pulse Width, Duty Cycle 2%.  
 2. Thermal Resistance Junction To Case.  
 3. Measured At 1.0MHz And Applied Reverse Voltage Of 4.0V DC.

## FEATURES

- \* Metal of silicon rectifier, majority carrier conduction
- \* Guard ring for transient protection
- \* Low power loss, high efficiency
- \* High current capability, low  $V_F$
- \* High surge capacity
- \* For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

## MECHANICAL DATA

- \* Case: TO-247AD molded plastic
- \* Polarity: As marked on the body
- \* Weight: 0.2 ounces, 5.6 grams
- \* Mounting position: Any

**Sirectifier**®

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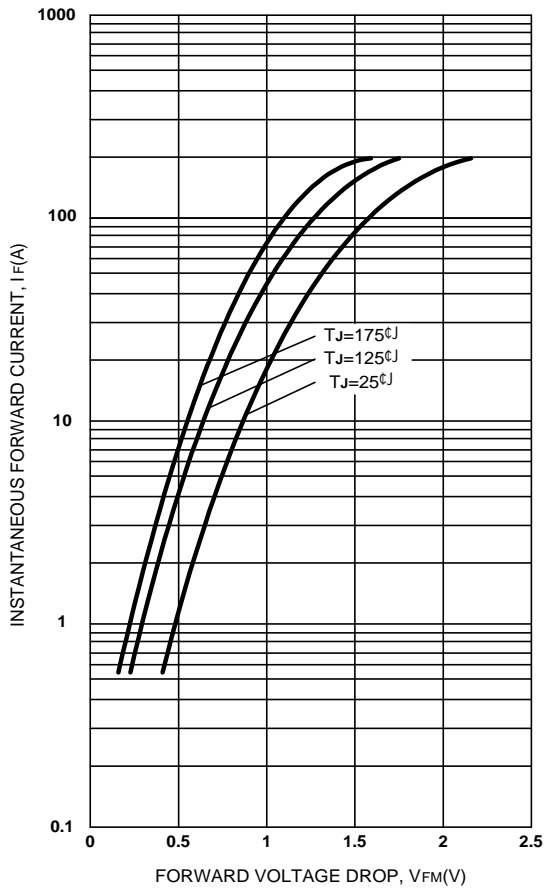


Figure 1. Max. Forward Voltage Drop Characteristics (Per Leg)

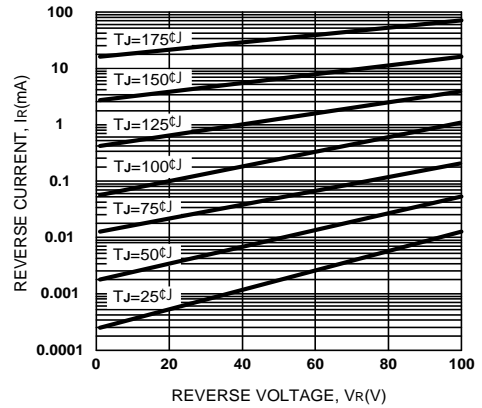


Figure 2. Typical Values Of Reverse Current Vs. Reverse Voltage (Per Leg)

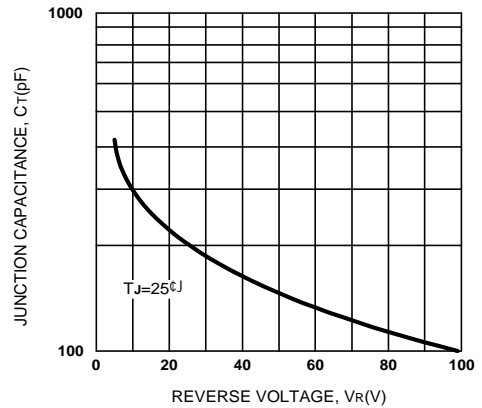


Figure 3. Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

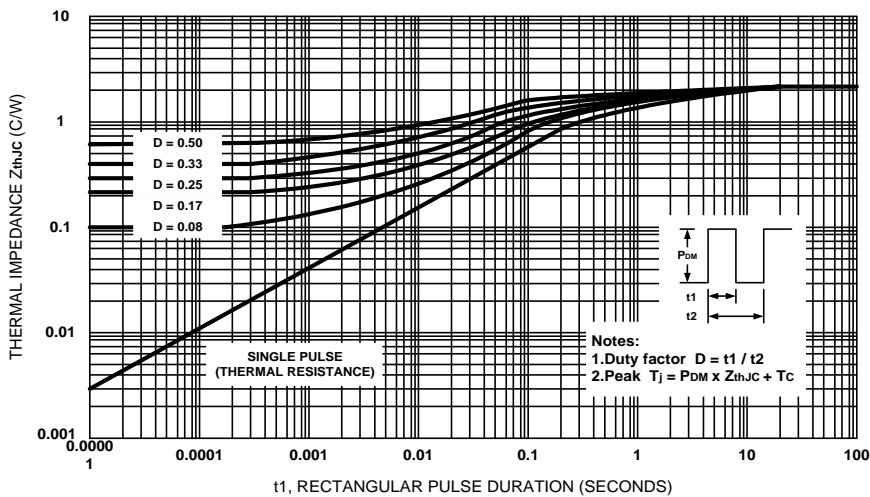


Figure 4. Max. Thermal Impedance  $Z_{thJC}$  Characteristics (Per Leg)

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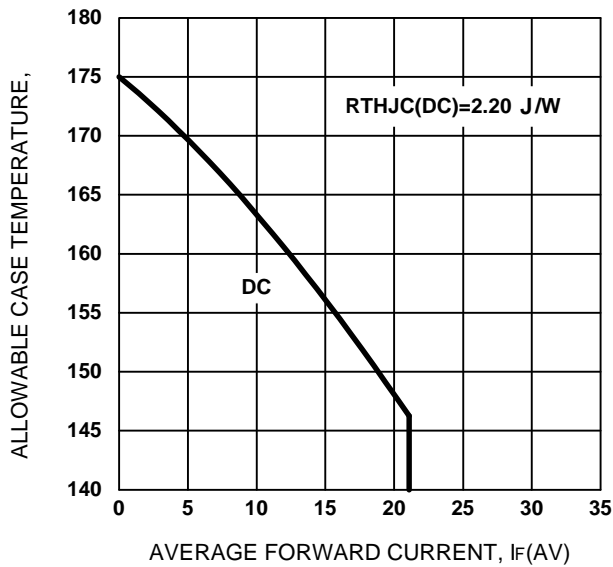


Figure 5. Max. Allowable Case Temperature Vs. Average Forward Current (Per Leg)

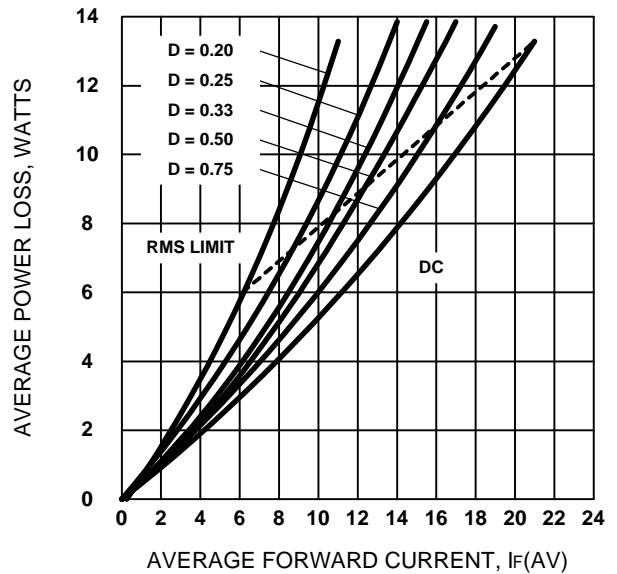


Figure 6. Forward Power Loss Characteristics (Per Leg)

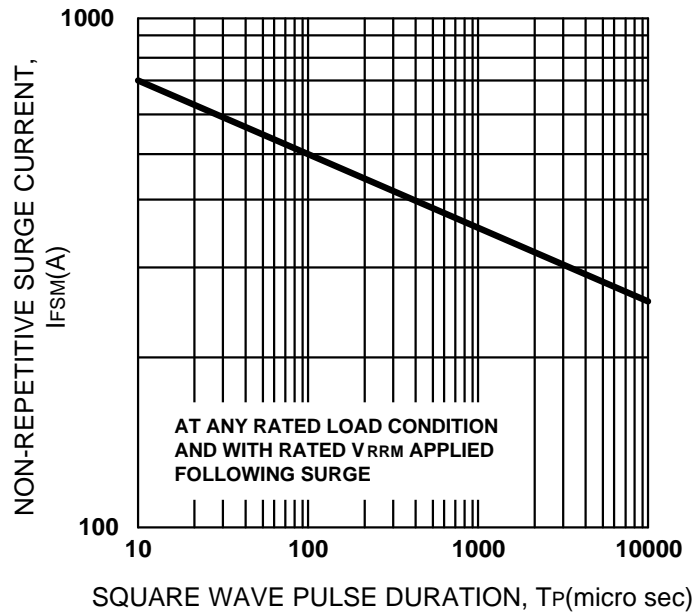


Figure 7. Max. Non-Repetitive Surge Current (Per Leg)