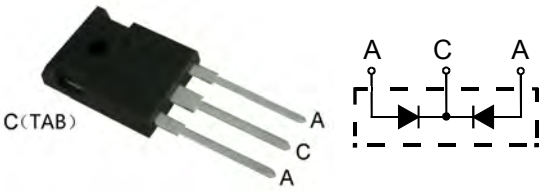
MBR40100PT

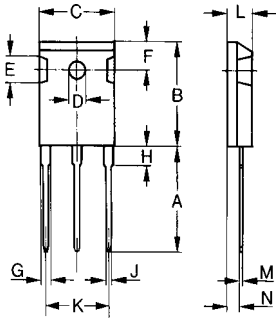
High Tjm Low IRRM Schottky Barrier Diodes



A=Anode, C=Cathode, TAB=Cathode

	V_{RRM}	V_{DC}
	V	V
MBR40100PT	100	100

Dimensions TO-247AD



Dim.	Millimeter Min.	Max.	Inches 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

Symbol	Characteristics	Maximum Ratings	Unit
$I_{F(AV)}$	Maximum Average Forward Rectified Current @T_C=145°C	40	A
I_{FSM}	Peak Forward Surge Current 10ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD)	300	A
dv/dt	Voltage Rate Of Change (Rated V_R)	10000	V/us
V_{FM}	Maximum Forward Voltage (Note 1) I_F=20A @T_J=25°C I_F=20A @T_J=125°C I_F=40A @T_J=25°C I_F=40A @T_J=125°C	0.77 0.61 0.91 0.75	V
I_{RM}	Maximum DC Reverse Current @T_J=25°C At Rated DC Blocking Voltage @T_J=125°C	1.25 15	mA
R_{thJC}	Typical Thermal Resistance (Note 2)	1.25	°C/W
C_T	Typical Junction Capacitance Per Element (Note 3)	600	pF
T_J	Operating Temperature Range	-55 to +175	°C
T_{STG}	Storage Temperature Range	-55 to +175	°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 conducton
* 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 whelling, and polarity protection applications
* RoHS compliant

MECHANICAL DATA

* Case: TO-247AD molded plastic
* Polarity: As marked on the body
* Weight: 6 grams
* Mounting position: Any

Sirectifier®

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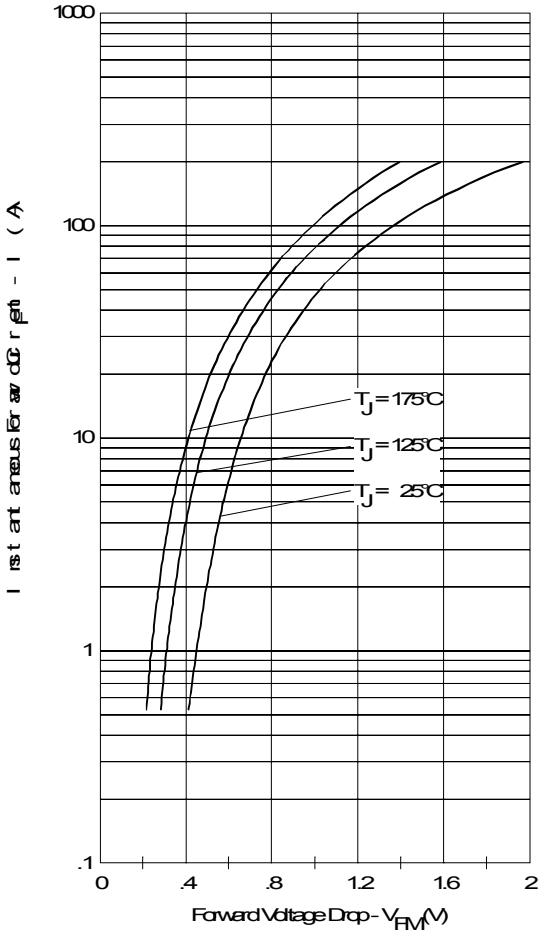

Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

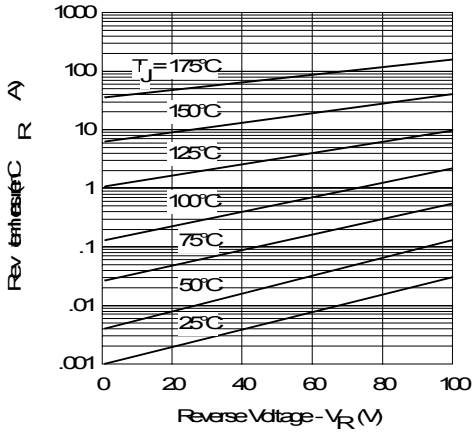

Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage (Per Leg)

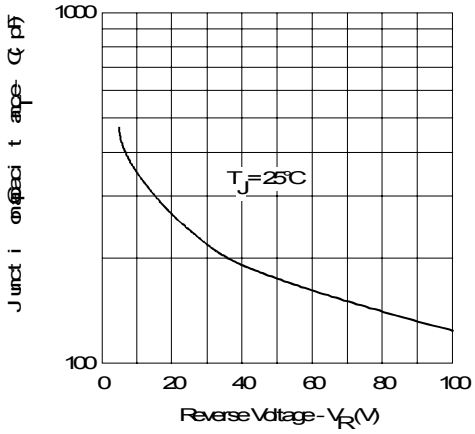

Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

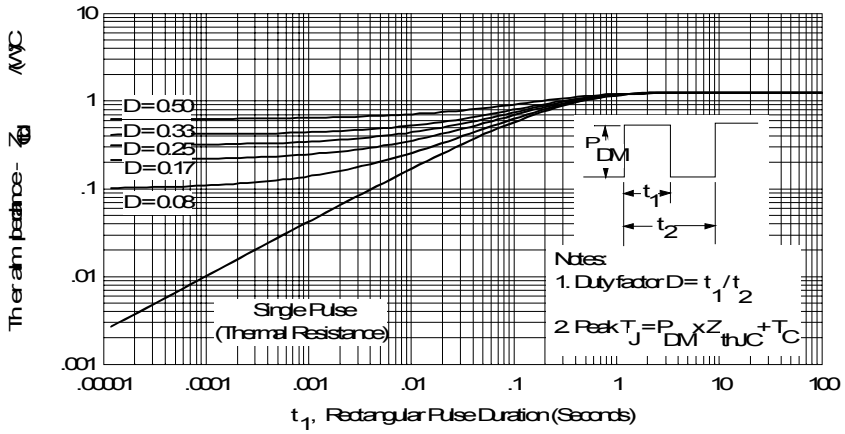

Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

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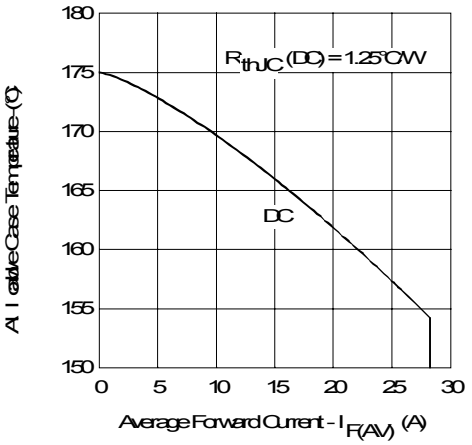

Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current (Per Leg)

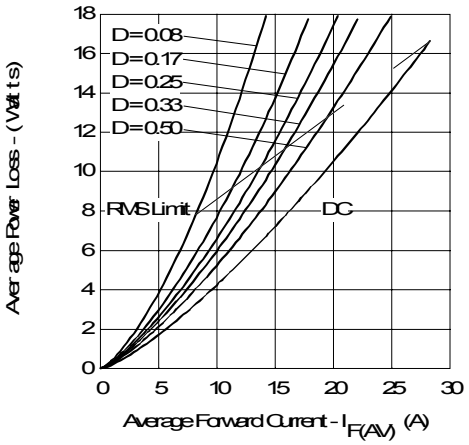

Fig. 6 - Forward Power Loss Characteristics (Per Leg)

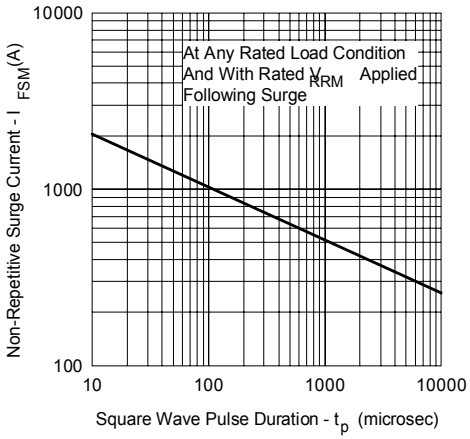

Fig. 7 - Max. Non-Repetitive Surge Current (Per Leg)

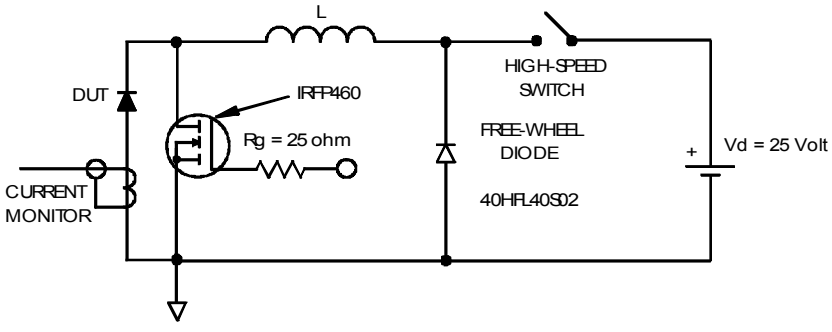

Fig. 8 - Unclamped Inductive Test Circuit

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