

MBR4020DC – MBR40100DC

40A SURFACE MOUNT DUAL SCHOTTKY BARRIER RECTIFIER

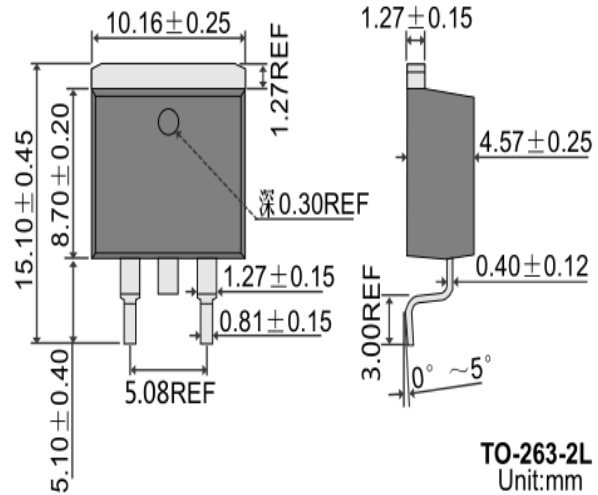
Features

- Low Forward Voltage
- Epitaxial Construction with Oxide Passivation
- Guard Ring for Transient and ESD Protection
- Surge Overload Rating to 250A Peak
- Low Power Loss, High Efficiency
- Fast Switching
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Switching Power Supplies

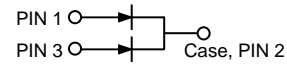
Mechanical Data

- Case: D²PAK/TO-263, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 1.7 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version**

D²PAK/TO-263



TO-263-2L
Unit:mm



Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	MBR	MBR	MBR	MBR	MBR	MBR	MBR	MBR	Unit
		4020DC	4030DC	4040DC	4045DC	4050DC	4060DC	4080DC	40100DC	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	20	30	40	45	50	60	80	100	V
RMS Reverse Voltage	V _{R(RMS)}	14	21	28	32	35	42	56	70	V
Average Rectified Output Current @T _C = 100°C	Total Device I _O Per Diode	40 20								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	250								A
Forward Voltage per diode @I _F = 20A, T _J = 25°C @I _F = 20A, T _J = 125°C	V _{FM}	0.70 0.60			0.75 0.65		0.85 0.75			V
Peak Reverse Current At Rated DC Blocking Voltage	@T _J = 25°C I _{RM} @T _J = 100°C	1.0 20								mA
Typical Junction Capacitance (Note 1)	C _J	1100				650				pF
Thermal Resistance Junction to Ambient (Note 2) Thermal Resistance Junction to Case (Note 2)	R _{JA} R _{JC}	50 1.5								°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150								°C

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.
2. Mounted on FR-4 PCB with minimum recommended pad layout per diode.

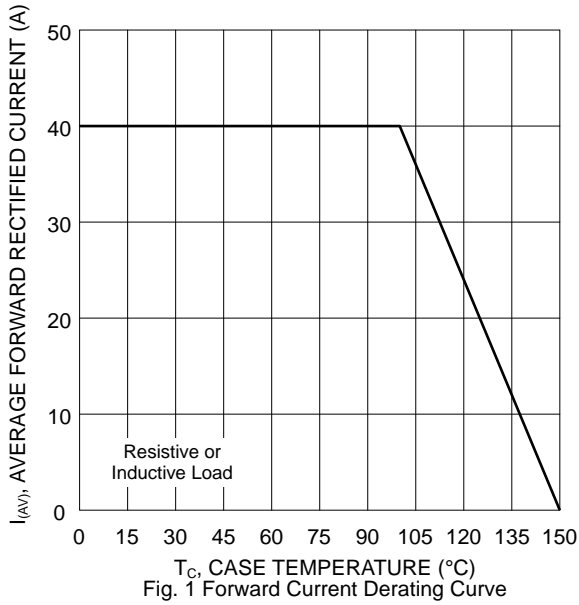


Fig. 1 Forward Current Derating Curve

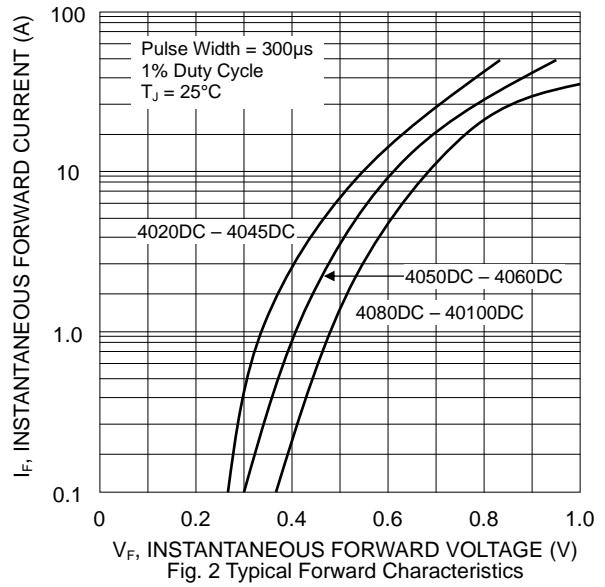


Fig. 2 Typical Forward Characteristics

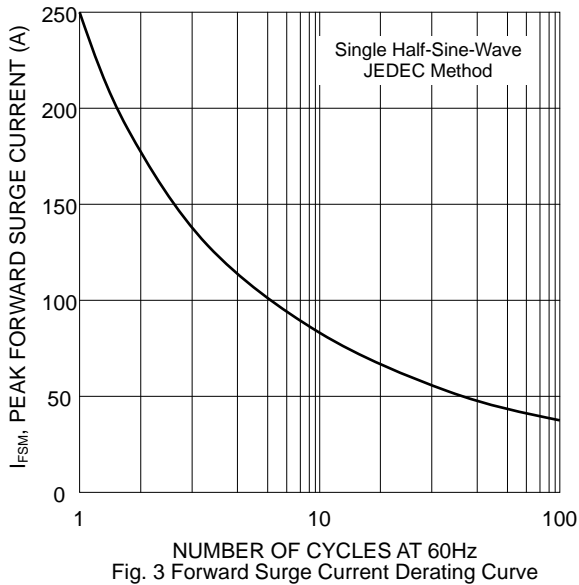


Fig. 3 Forward Surge Current Derating Curve

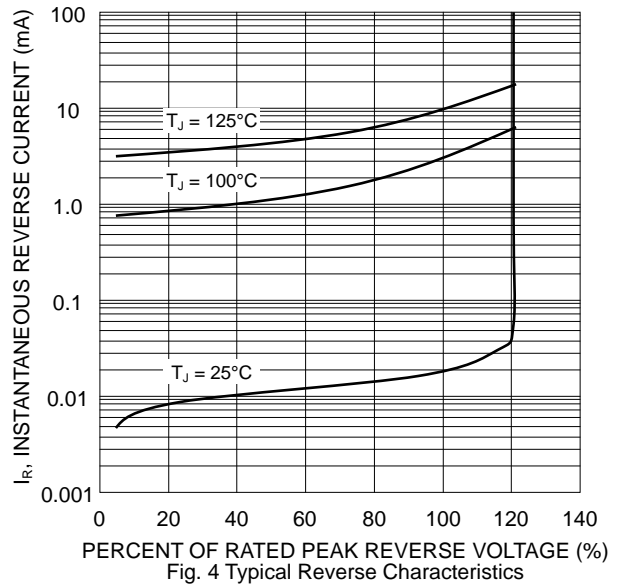


Fig. 4 Typical Reverse Characteristics

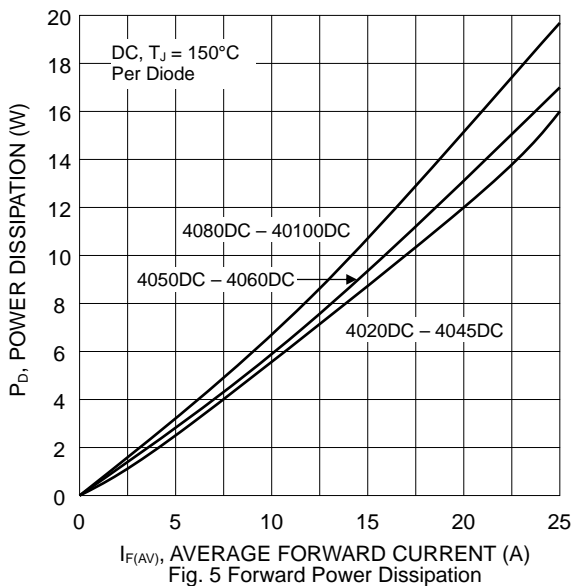


Fig. 5 Forward Power Dissipation

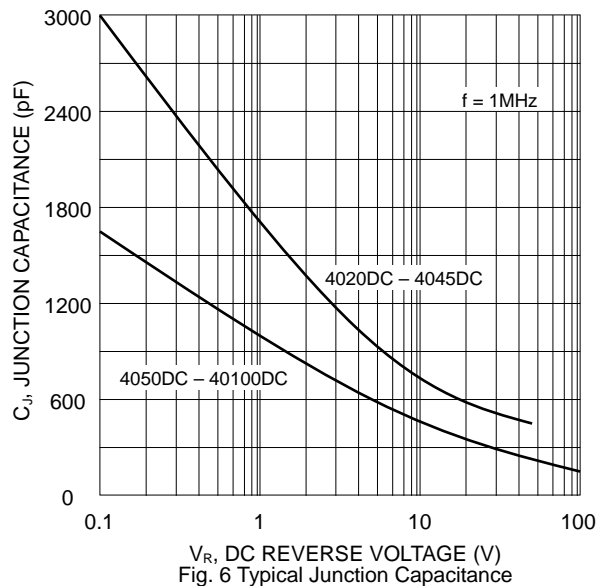
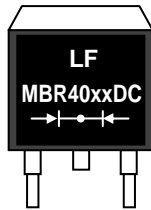


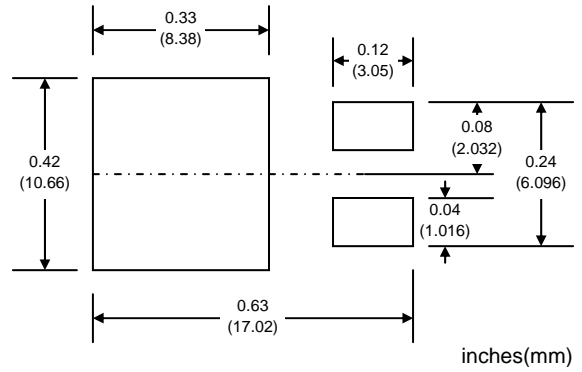
Fig. 6 Typical Junction Capacitance

MARKING INFORMATION



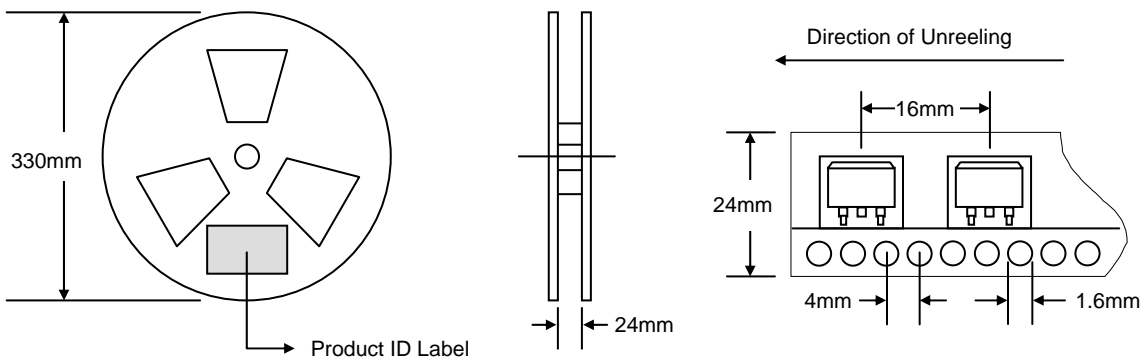
MBR40xxDC = Device Number
 xx = 20, 30, 40, 45, 50, 60, 80 or 100
 Polarity = As Marked on Body

RECOMMENDED FOOTPRINT



PACKAGING INFORMATION

TAPE & REEL



Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
330	800	340 x 337 x 45	800	370 x 370 x 420	6,400	15.0