

MBR4020FCT – MBR40100FCT

40A DUAL SCHOTTKY BARRIER RECTIFIER

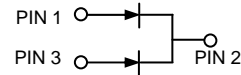
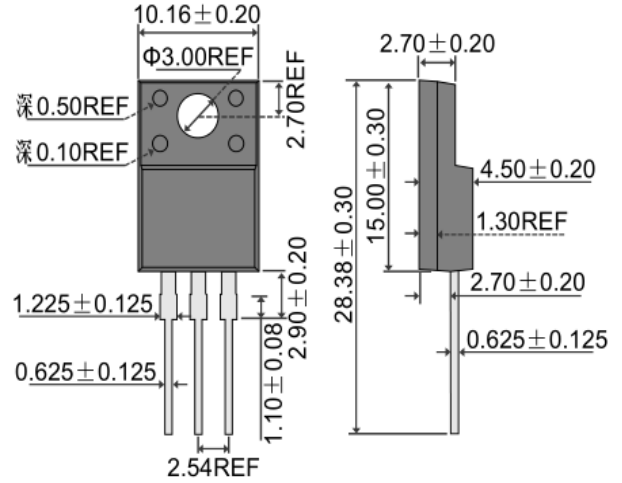
Features

- Power Schottky Barrier Chip
- Guard Ring for Transient Protection
- Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Current Capability
- Epoxy Meets UL 94V-0 Classification
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

Mechanical Data

- Case: ITO-220, Full Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 1.9 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 0.6 N.m Max.
- **Lead Free: For RoHS / Lead Free Version,**

ITO-220AB



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
		4020FCT	4030FCT	4040FCT	4045FCT	4050FCT	4060FCT	4080FCT	40100FCT	
Peak Repetitive Reverse Voltage	V _{RRM}	20	30	40	45	50	60	80	100	V
Working Peak Reverse Voltage	V _{VRM}									
DC Blocking Voltage	V _R									
RMS Reverse Voltage	V _{R(RMS)}	14	21	28	32	35	42	56	70	V
Average Rectified Output Current @T _C = 100°C	I _O	40 20								A
Total Device Per Diode										
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	V _{FM}	0.70			0.75			0.85		V
@I _F = 20A, T _J = 125°C		0.60			0.65			0.75		
Peak Reverse Current At Rated DC Blocking Voltage	I _{RM}	1.0								mA
@T _J = 25°C		20								
@T _J = 100°C										
Typical Junction Capacitance (Note 1)	C _J	1100				650				pF
Thermal Resistance Junction to Ambient per diode	R _{JA}	52								°C/W
Thermal Resistance Junction to Case per diode	R _{JC}	4.0								
RMS Isolation Voltage, t = 1 min	V _{ISO}	1500								V
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.

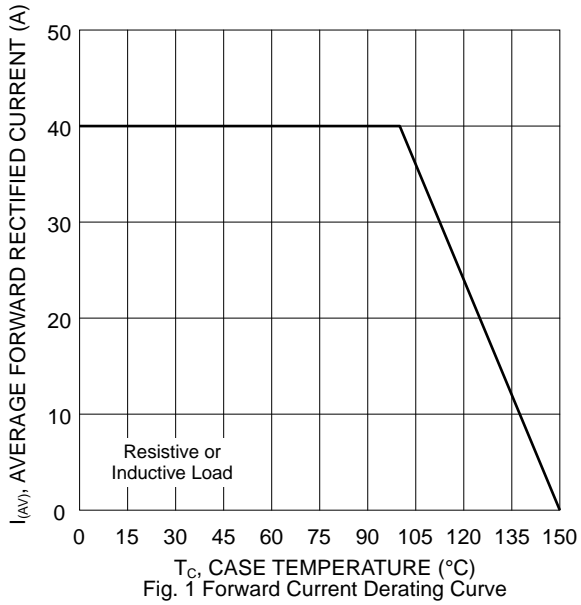


Fig. 1 Forward Current Derating Curve

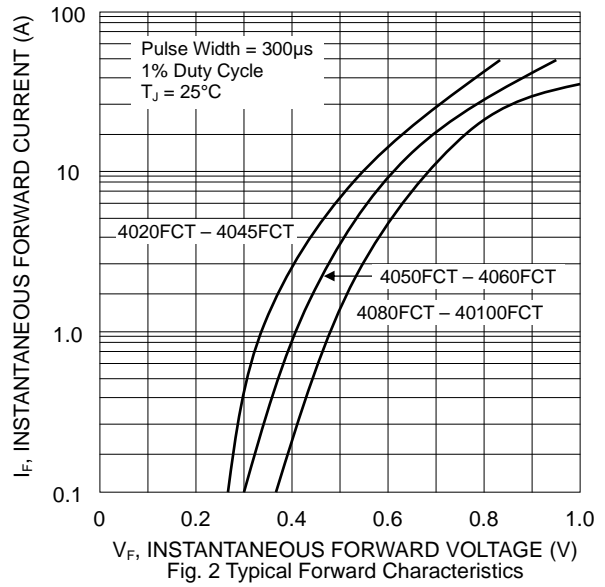


Fig. 2 Typical Forward Characteristics

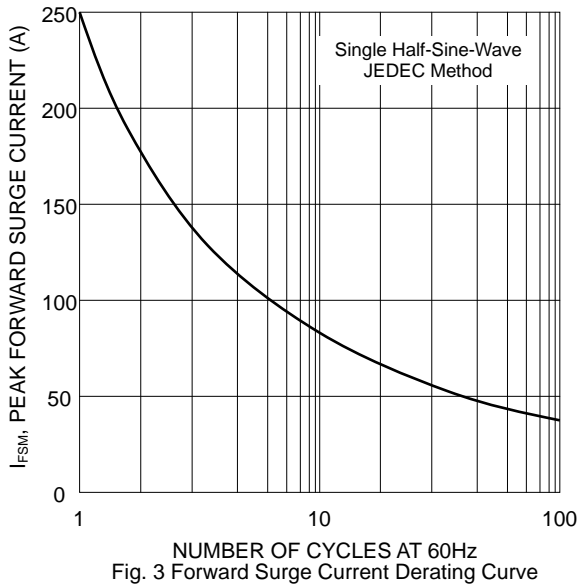


Fig. 3 Forward Surge Current Derating Curve

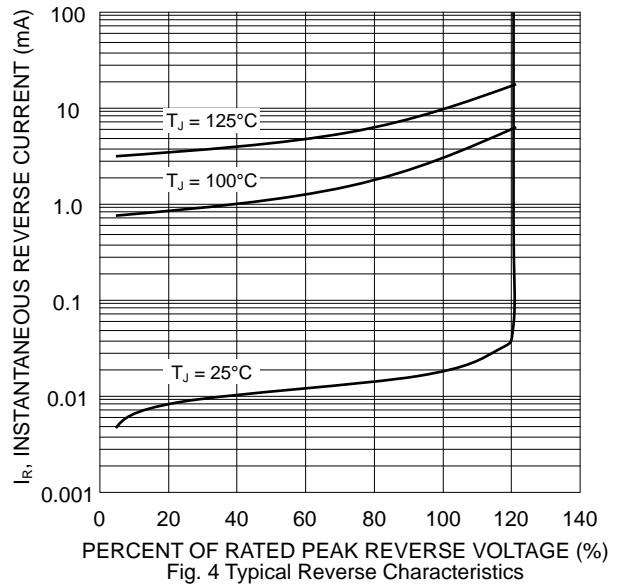


Fig. 4 Typical Reverse Characteristics

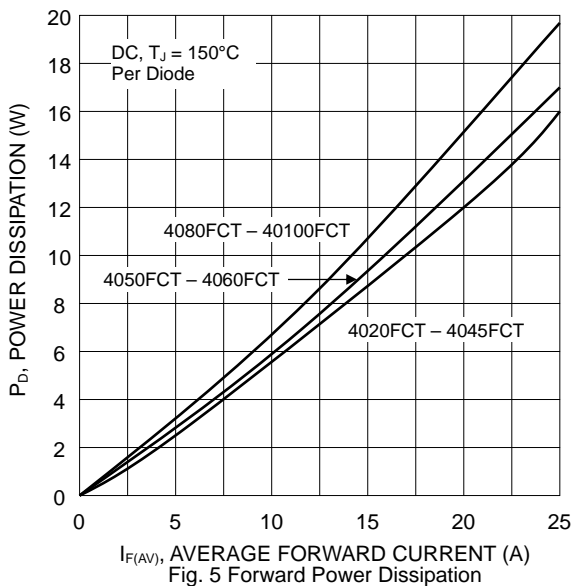


Fig. 5 Forward Power Dissipation

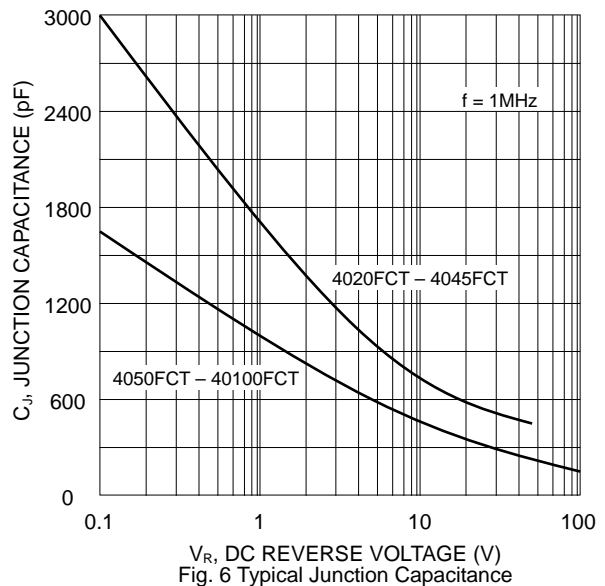
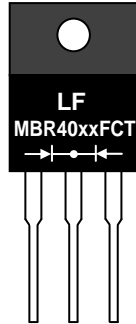


Fig. 6 Typical Junction Capacitance

MARKING INFORMATION



MBR40xxFCT= Device Number
 xx = 20, 30, 40, 45, 50, 60, 80 or 100
 Polarity = As Marked on Body

PACKAGING INFORMATION

BULK

Tube Size L x W x H (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)
525 x 31 x 6	50	558 x 150 x 40	1,000	570 x 235 x 170	5,000	11.85

RECOMMENDED SCREW MOUNTING ARRANGEMENT

The full molded plastic package affords a major reduction of hardware as compared to a standard TO-220 package. However, precautions should be made in mounting procedure.

A conical washer should be used to apply proper force to the device. Screw should not be tightened with any type of air-forced torque or equipment that may cause crack on device package.

A layer of thermal grease or thermal pad in the interface will be considerably helpful for heat dissipation.

