



YEA SHIN TECHNOLOGY CO., LTD

MBRL3040FCT THRU MBRL30150FCT

30A Low V_F SCHOTTKY Barrier Rectifier

Voltage - 40 to 150 Volts Current – 30 Amperes

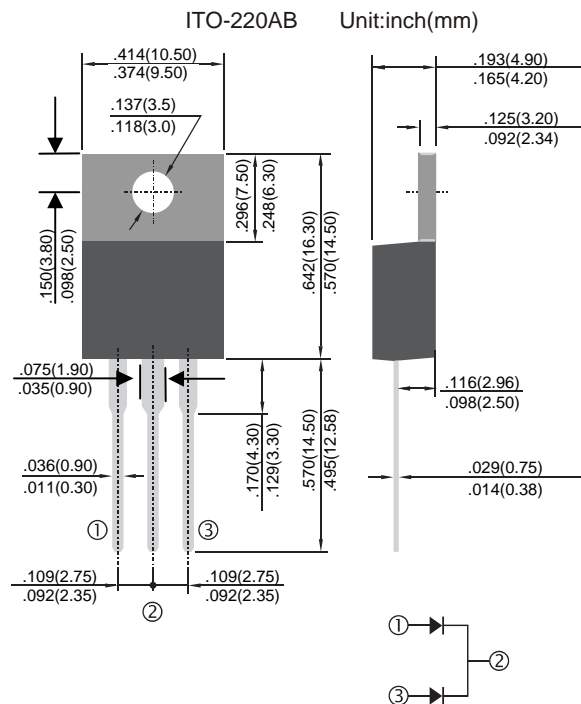


Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0. Flame Retardant Epoxy Molding Compound.
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency.
- High current capability
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.
- Lead free in comply with EU RoHS.

Mechanical Data

- Case: ITO-220AB molded plastic
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Mounting Position: Any



Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)
(Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate by 20%.)

Parameters	Symbol	MBRL 3040FCT	MBRL 3045FCT	MBRL 3060FCT	MBRL 30100FCT	MBRL 30150FCT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	45	60	100	150	V
Maximum RMS Voltage	V_{RMS}	28	31.5	42	70	105	V
Maximum DC Blocking Voltage	V_{DC}	40	45	60	100	150	V
Maximum Average Forward Rectified Current	I_{AV}	30					A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	250					A
Maximum Instantaneous Forward Voltage at 15.0A Per Diode	V_F	0.55		0.6	0.7	0.87	V
Maximum DC Reverse Current $T_a=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a=125^\circ\text{C}$	I_R	0.15 36 (Typ.)		0.22 16 (Typ.)	0.1 8.5 (Typ.)	0.05 3.1 (Typ.)	mA
Typical Junction Capacitance (Note 1)	C_J	1200		650	750	400	pF
Maximum Thermal Resistance (Note 2)	$R_{\theta JC}$	2					$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_J	-55 to +150					$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150					$^\circ\text{C}$

Notes: 1. Measure at 1.0MHz and applied reverse voltage of 4.0 Vdc.

2. Mounted on infinite heatsink.

DEVICE CHARACTERISTICS

MBRL3040FCT THRU MBRL30150FCT

40-45V

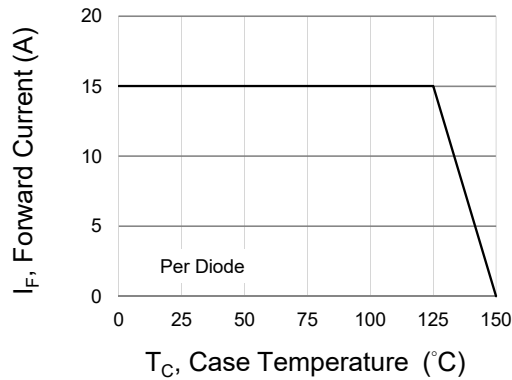


Fig.1 Forward Current Derating Curve

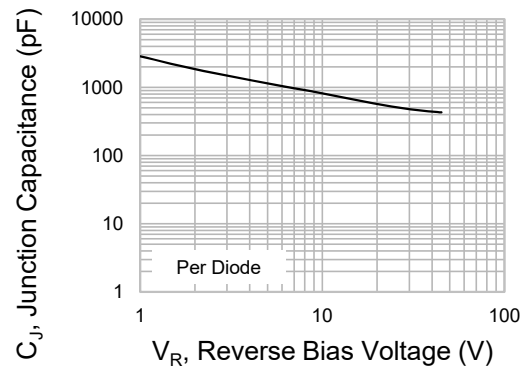


Fig.2 Typical Junction Capacitance

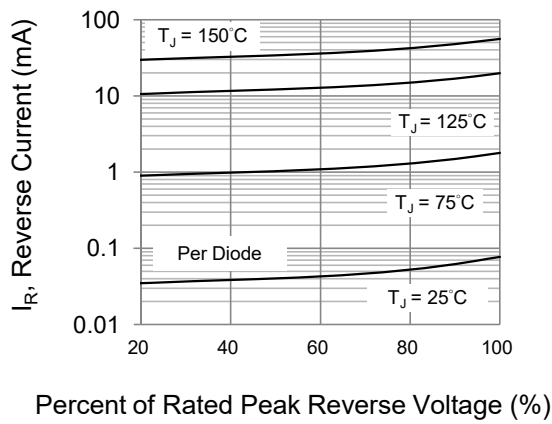


Fig.3 Typical Reverse Characteristics

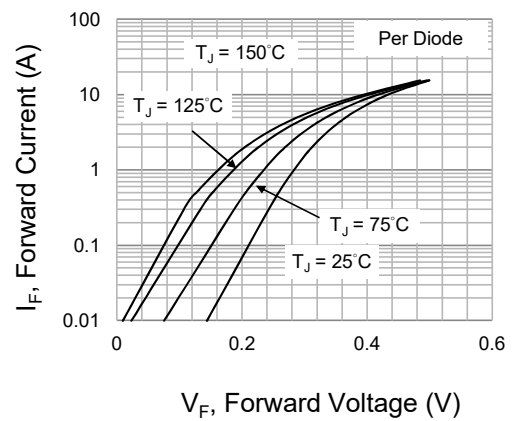


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL3040FCT THRU MBRL30150FCT

60V

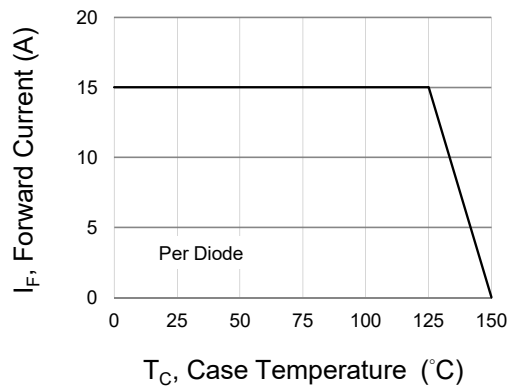


Fig.1 Forward Current Derating Curve

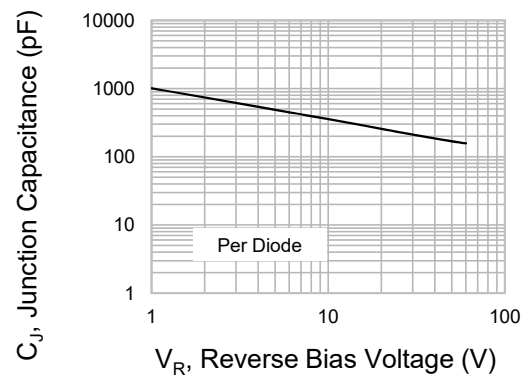


Fig.2 Typical Junction Capacitance

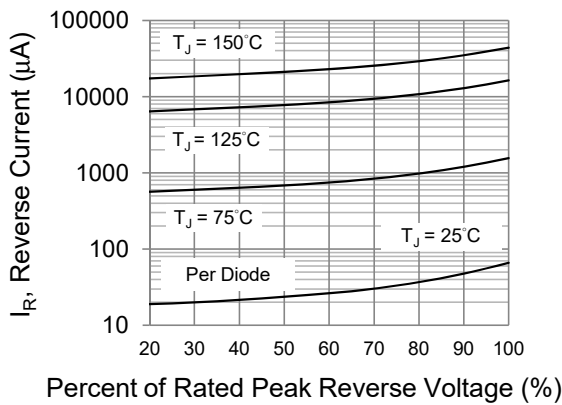


Fig.3 Typical Reverse Characteristics

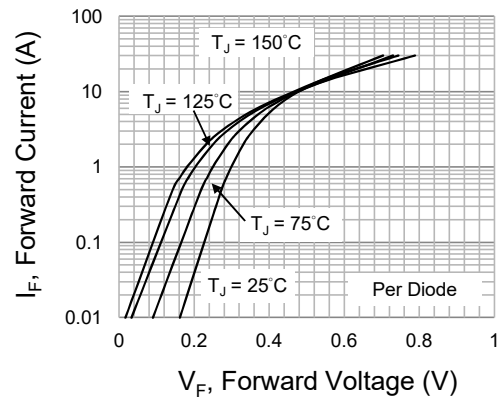


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL3040FCT THRU MBRL30150FCT

100V

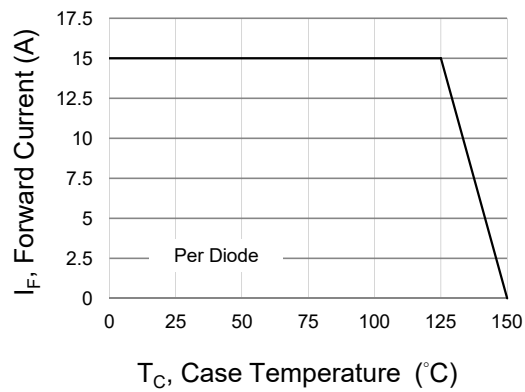


Fig.1 Forward Current Derating Curve

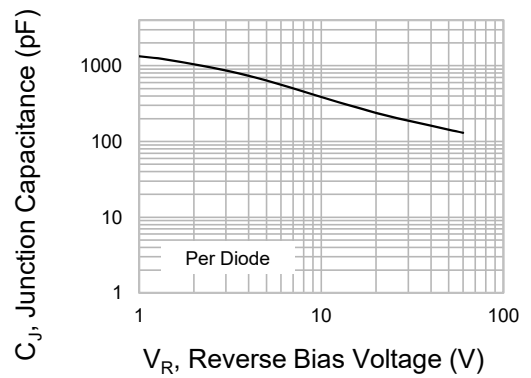


Fig.2 Typical Junction Capacitance

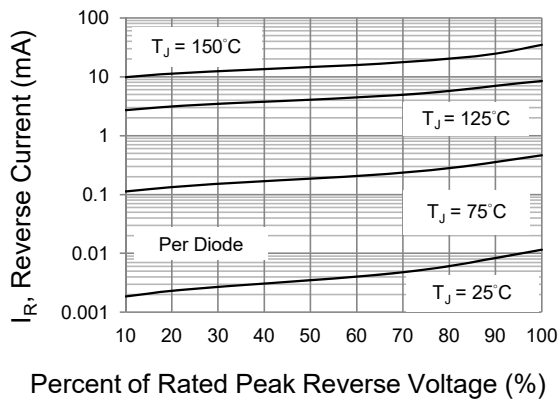


Fig.3 Typical Reverse Characteristics

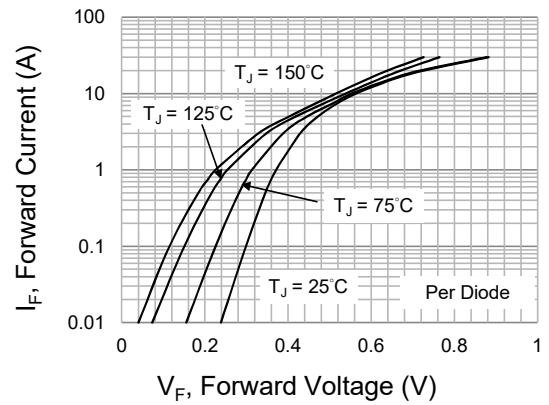


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL3040FCT THRU MBRL30150FCT

150V

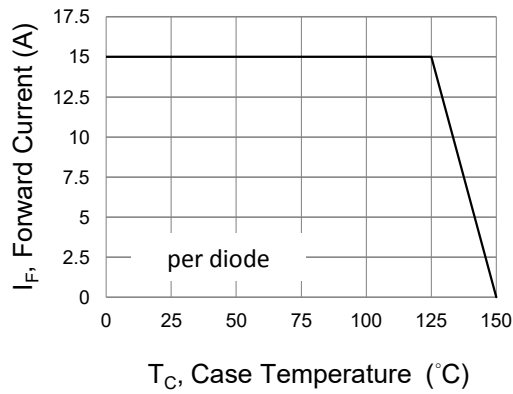


Fig.1 Forward Current Derating Curve

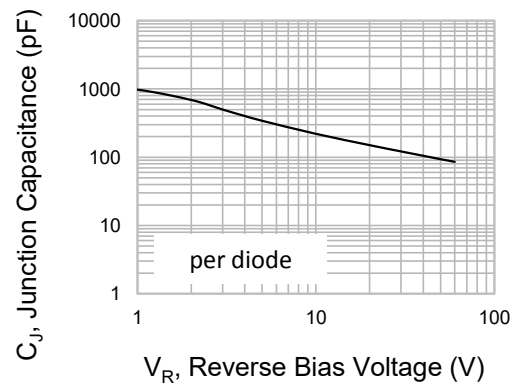


Fig.2 Typical Junction Capacitance

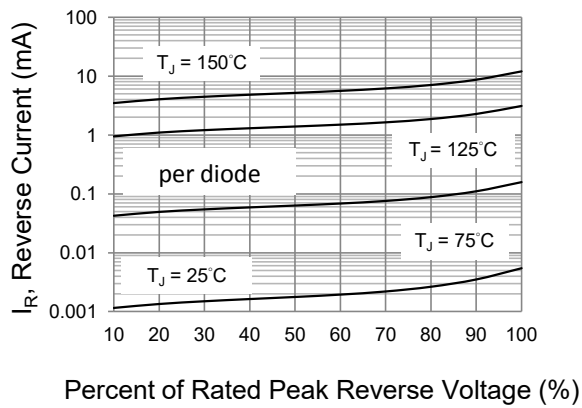


Fig.3 Typical Reverse Characteristics

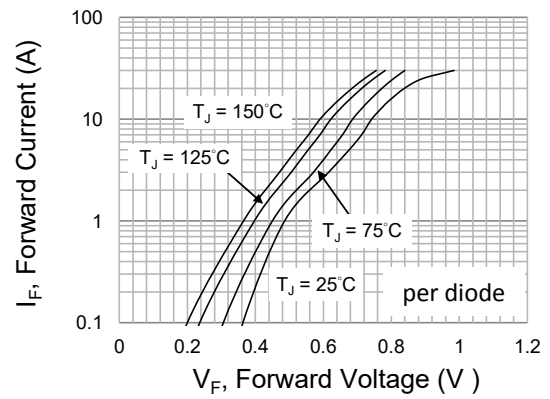


Fig.4 Typical Forward Characteristics