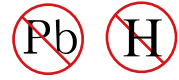




40A Low V_F SCHOTTKY Barrier Rectifier
Voltage - 40 to 200 Volts Current - 40 Amperes

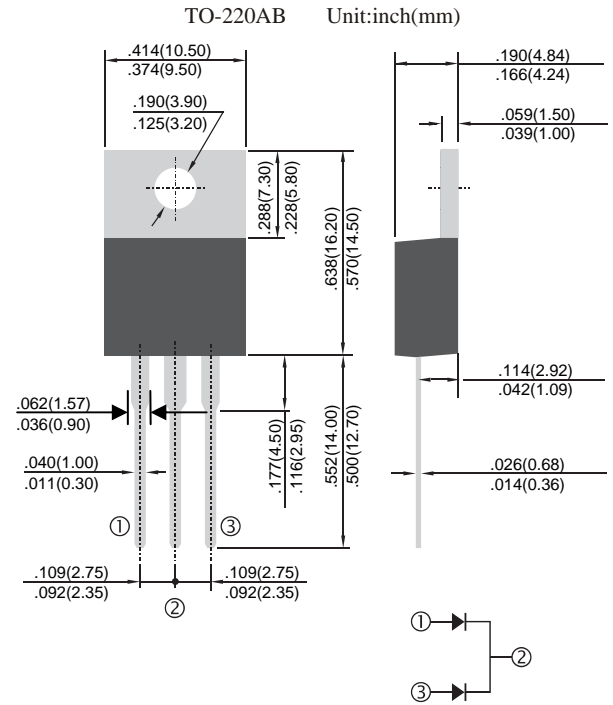


Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability

Mechanical Data

- Case: TO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe.
Solderable per MIL-STD-202, Method 208



Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load)

Parameters		Symbol	MBRL 4040CT	MBRL 4045CT	MBRL 4060CT	MBRL 40100CT	MBRL 40120CT	MBRL 40150CT	MBRL 40200CT	Unit
Maximum Repetitive Peak Reverse Voltage per diode at $I_R=1mA(40V-60V)$, $I_R=0.5mA(100V-200V)$		V_{RRM}	40	45	60	100	120	150	200	V
Maximum RMS Voltage		V_{RMS}	28	32	42	70	84	105	140	V
Maximum DC Blocking Voltage		V_{DC}	40	45	60	100	120	150	200	V
Maximum Average Forward Rectified Current	Total Device Per Diode	$I_{(AV)}$	40				20			A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) Per Diode		I_{FSM}	300		250	300				A
Maximum Instantaneous Forward Voltage per Diode at $I_F=20A$		V_F	0.55		0.6	0.7	0.85	0.87	0.97	V
Maximum DC Reverse Current per Diode	$T_a=25^\circ C$ $T_a=125^\circ C$	I_R	0.2 120 (typ.)			0.1 12 (typ.)	0.05 12 (typ.)	0.05 4.1 (typ.)	0.05 7.2 (typ.)	mA
Typical Junction Capacitance (Note 1)		C_J	1000	1000	650	750	900	900	1600	pF
Maximum Thermal Resistance (Note 2)		$R_{\theta JC}$	2				4			°C/W
Operating Temperature Range		T_J	-55 to +150							°C
Storage Temperature Range		T_{STG}	-55 to +150							°C

Notes: 1. Measure at 1.0MHz and applied reverse voltage of 4.0 Vdc.
 2. Mounted on infinite heatsink.

DEVICE CHARACTERISTICS

MBRL4040CT THRU MBRL40200CT

MBRL4040CT

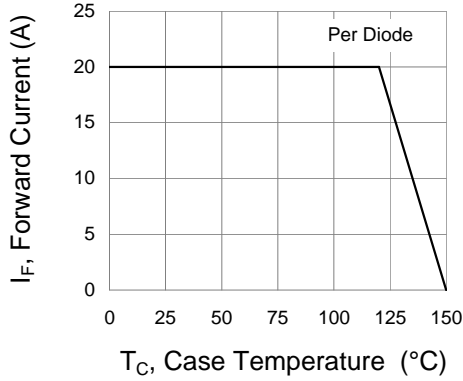


Fig.1 Forward Current Derating Curve

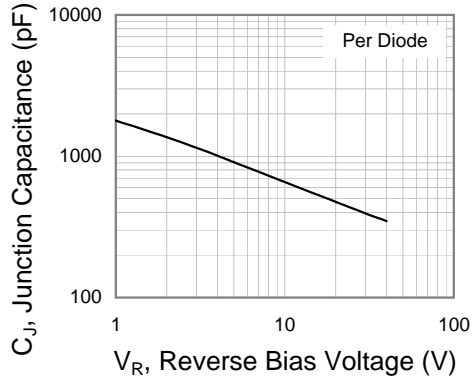


Fig.2 Typical Junction Capacitance

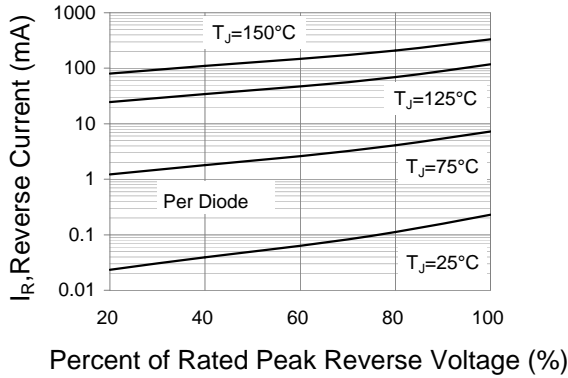


Fig.3 Typical Reverse Characteristics

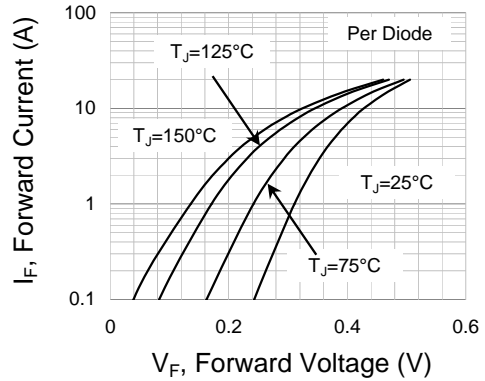


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL4040CT THRU MBRL40200CT

MBRL4045CT

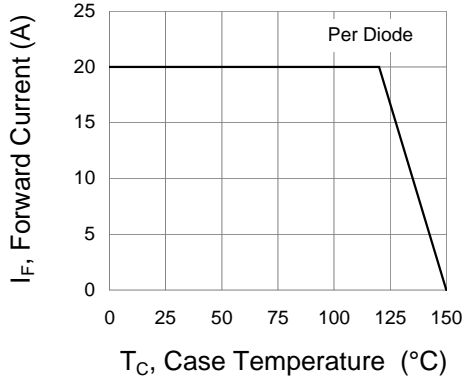


Fig.1 Forward Current Derating Curve

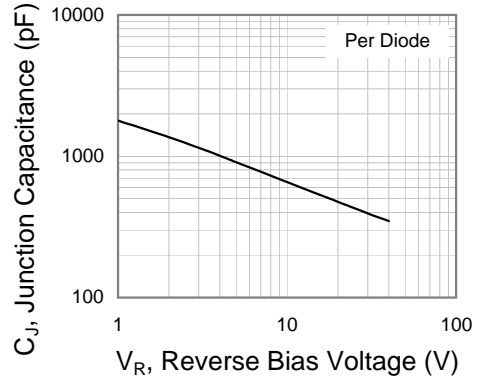


Fig.2 Typical Junction Capacitance

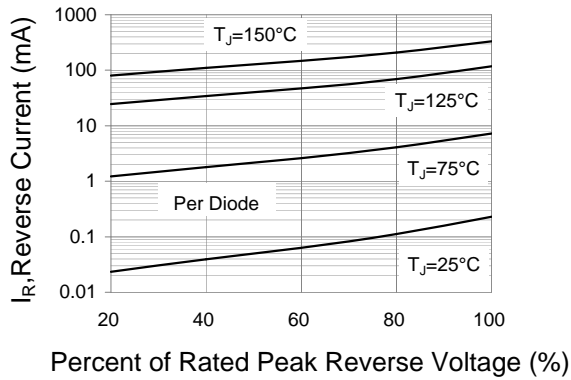


Fig.3 Typical Reverse Characteristics

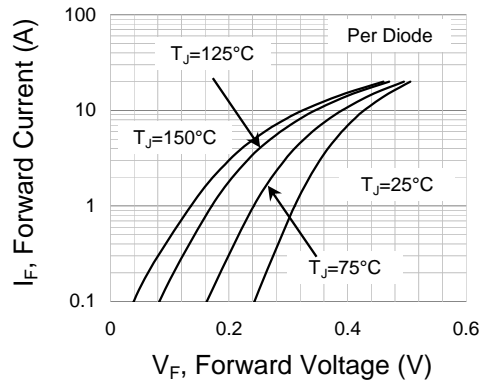


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL4040CT THRU MBRL40200CT

MBRL4060CT

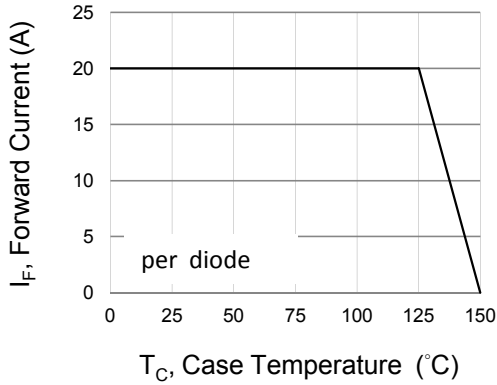


Fig.1 Forward Current Derating Curve

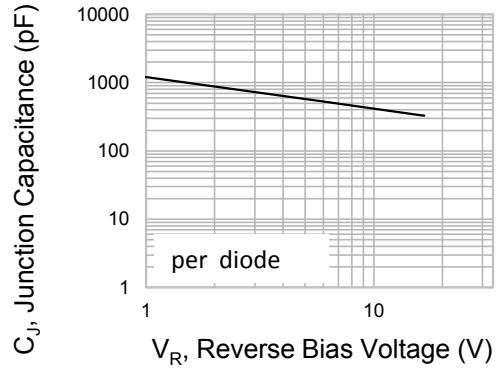


Fig.2 Typical Junction Capacitance

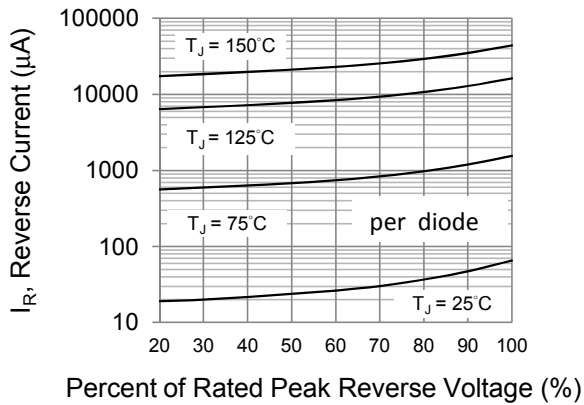


Fig.3 Typical Reverse Characteristics

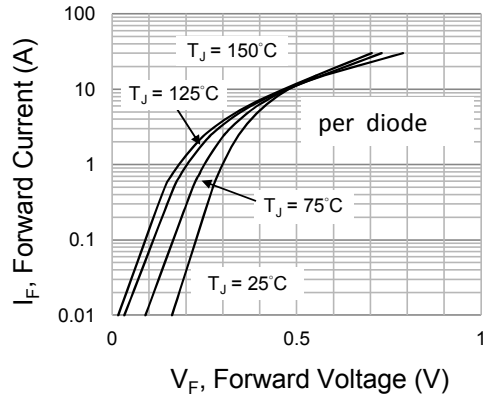


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL4040CT THRU MBRL40200CT

MBRL40100CT

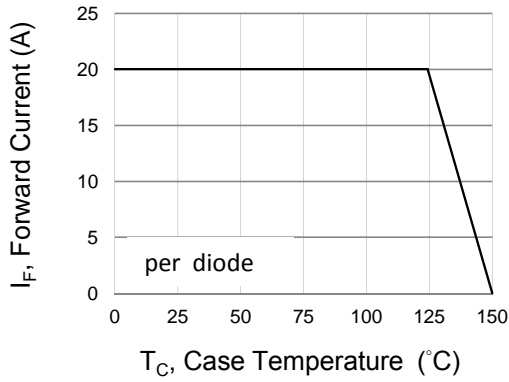


Fig.1 Forward Current Derating Curve

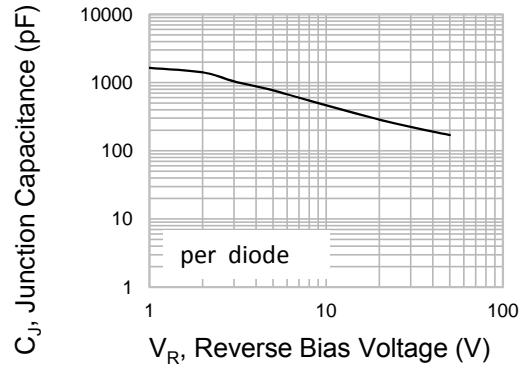


Fig.2 Typical Junction Capacitance

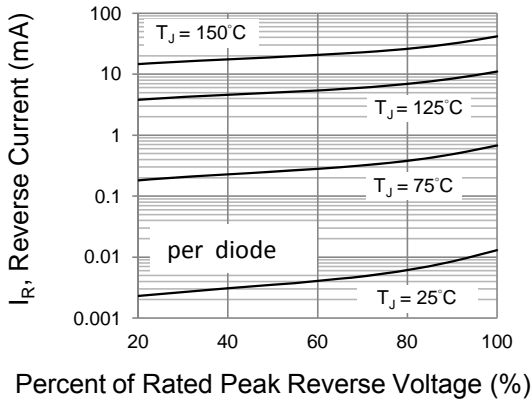


Fig.3 Typical Reverse Characteristics

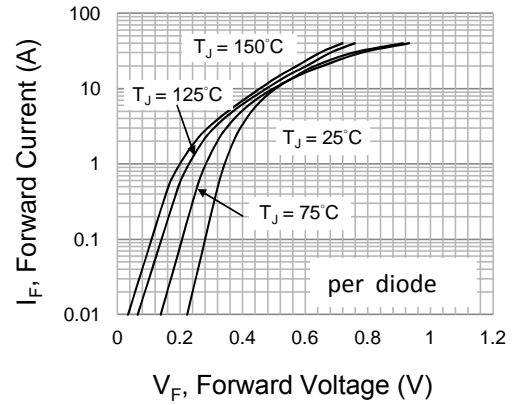


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL4040CT THRU MBRL40200CT

MBRL40120CT

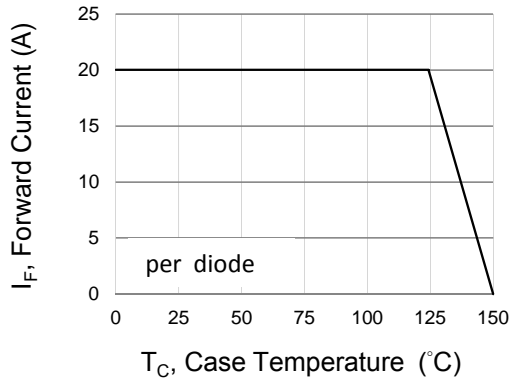


Fig.1 Forward Current Derating Curve

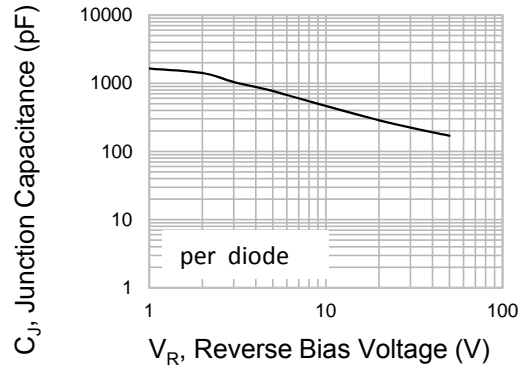


Fig.2 Typical Junction Capacitance

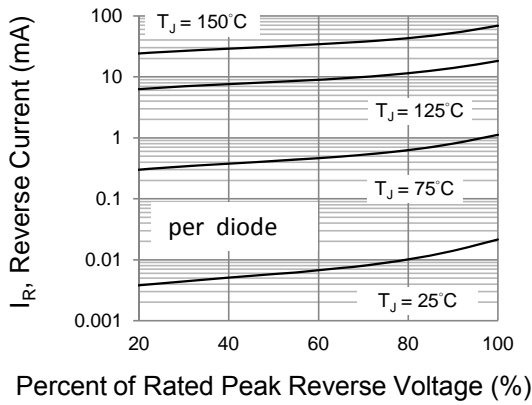


Fig.3 Typical Reverse Characteristics

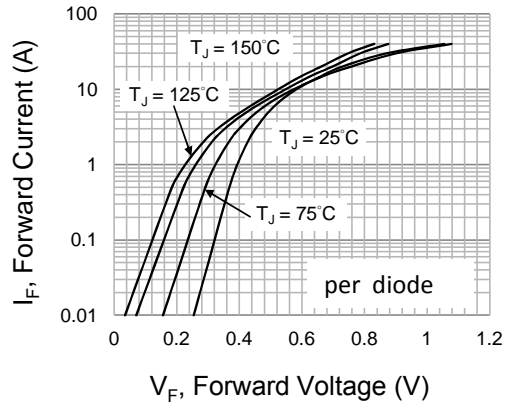


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL4040CT THRU MBRL40200CT

MBRL40150CT

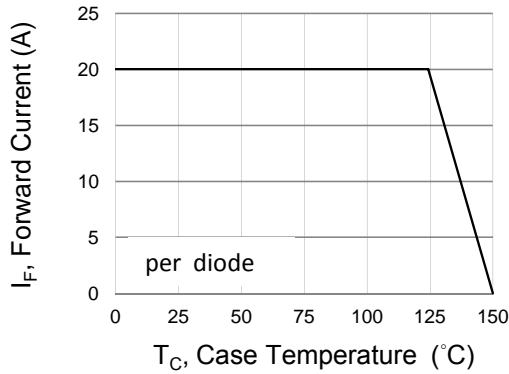


Fig.1 Forward Current Derating Curve

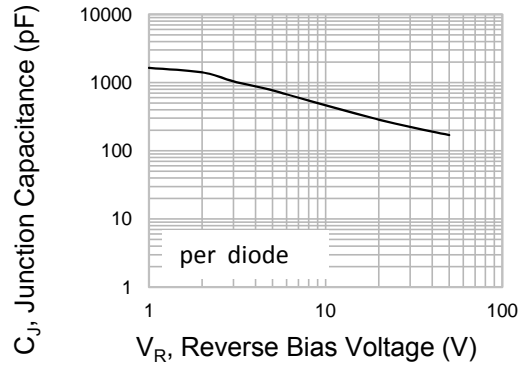


Fig.2 Typical Junction Capacitance

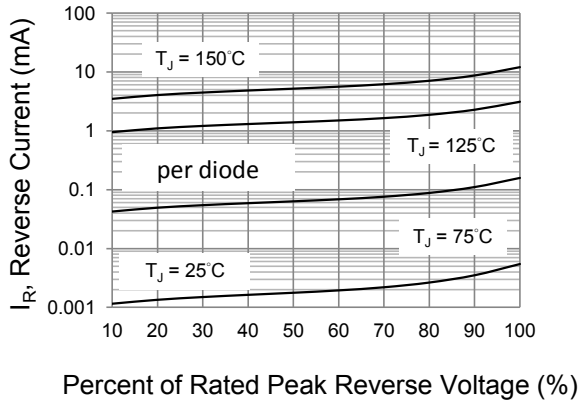


Fig.3 Typical Reverse Characteristics

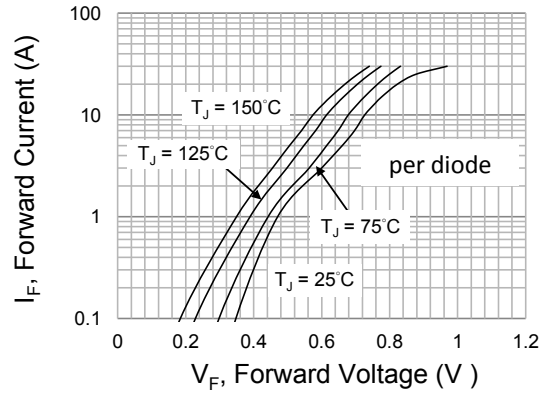


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL4040CT THRU MBRL40200CT

MBRL40200CT

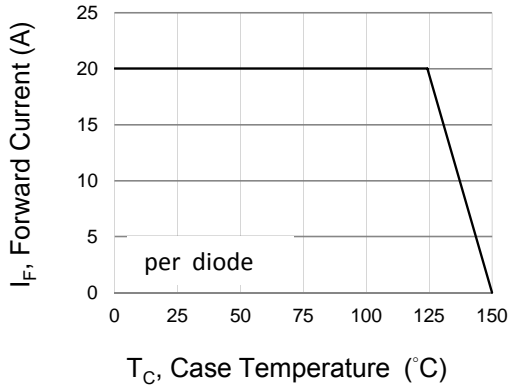


Fig.1 Forward Current Derating Curve

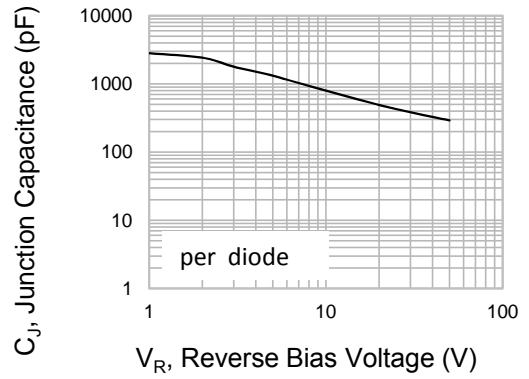


Fig.2 Typical Junction Capacitance

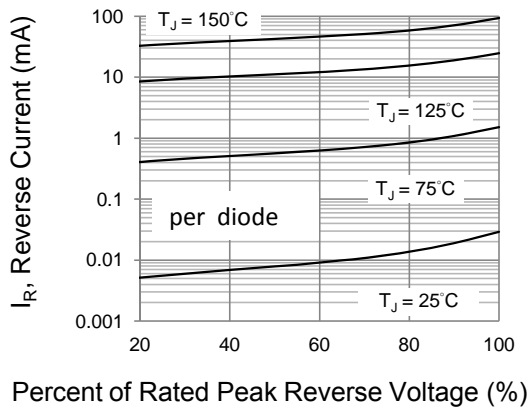


Fig.3 Typical Reverse Characteristics

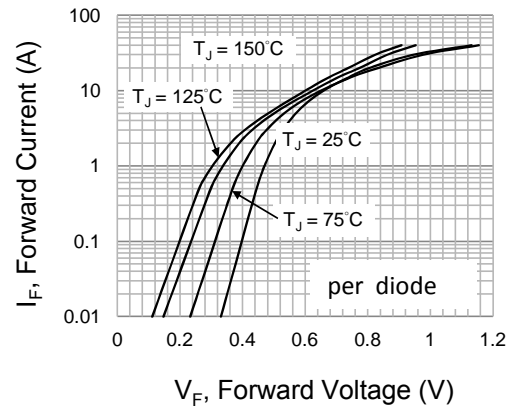


Fig.4 Typical Forward Characteristics