

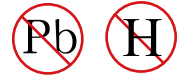


YEA SHIN TECHNOLOGY CO., LTD

MBRL3040CT THRU MBRL30200CT

30A Low V_F SCHOTTKY Barrier Rectifier

Voltage - 40 to 200 Volts Current - 30 Amperes

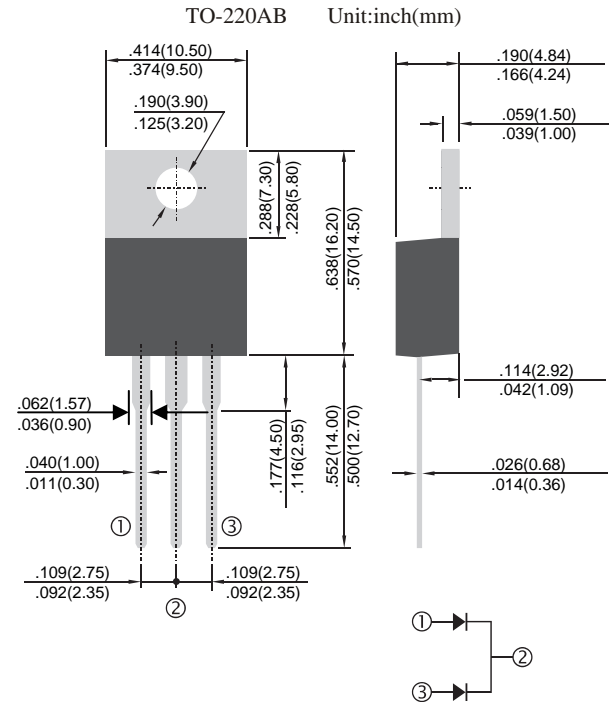


Features

- 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 3040CT	MBRL 3045CT	MBRL 3050CT	MBRL 3060CT	MBRL 30100CT	MBRL 30120CT	MBRL 30150CT	MBRL 30200CT	Unit
Maximum Repetitive Peak Reverse Voltage per diode at $I_R=0.5mA$	V_{RRM}	40	45	50	60	100	120	150	200	V
Maximum RMS Voltage	V_{RMS}	28	32	35	42	70	84	105	140	V
Maximum DC Blocking Voltage	V_{DC}	40	45	50	60	100	120	150	200	V
Maximum Average Forward Rectified Current	I_{AV}	30 15								A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) Per Diode	I_{FSM}	280				250				A
Maximum Instantaneous Forward Voltage per Diode at $I_F=15A$	V_F	0.5	0.55	0.58	0.7	0.85	0.87	0.97		V
Maximum DC Reverse Current per Diode	I_R	0.15 28 (typ.)	0.15 16 (typ.)	0.22 15 (typ.)	0.1 8.5 (typ.)	0.05 5 (typ.)	0.05 3.1 (typ.)	0.05 12 (typ.)		mA
Typical Junction Capacitance (Note 1)	C_J	1100	550	650	750	350	400	720		pF
Maximum Thermal Resistance (Note 2)	$R_{\theta JC}$	2				3	2	15		°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

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MBRL3040CT

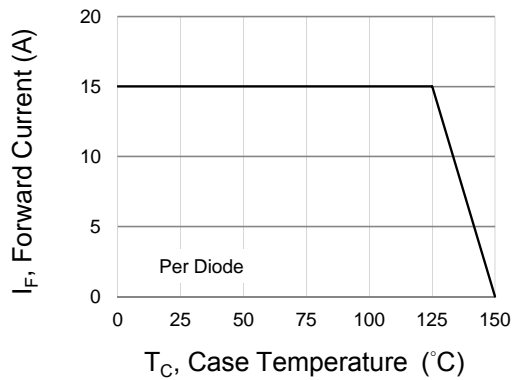


Fig.1 Forward Current Derating Curve

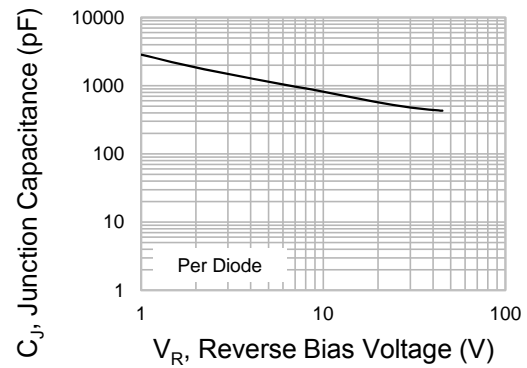


Fig.2 Typical Junction Capacitance

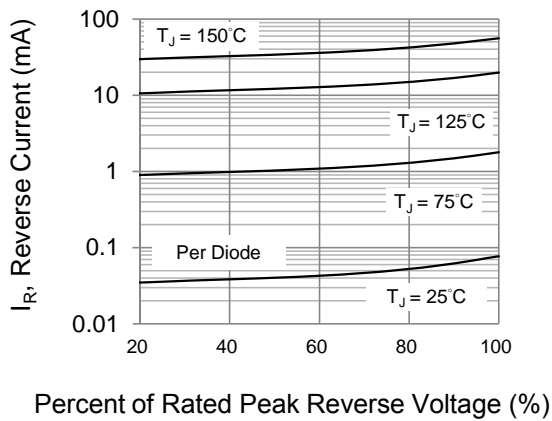


Fig.3 Typical Reverse Characteristics

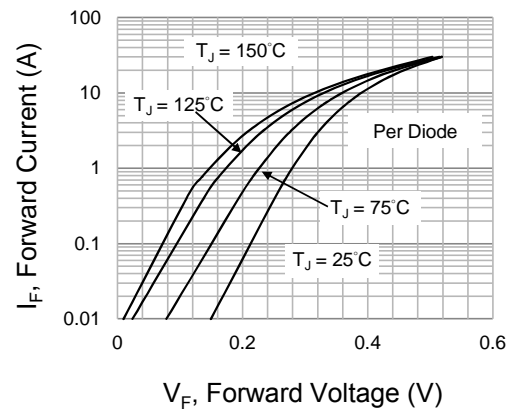


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL3040CT THRU MBRL30200CT

MBRL3045CT

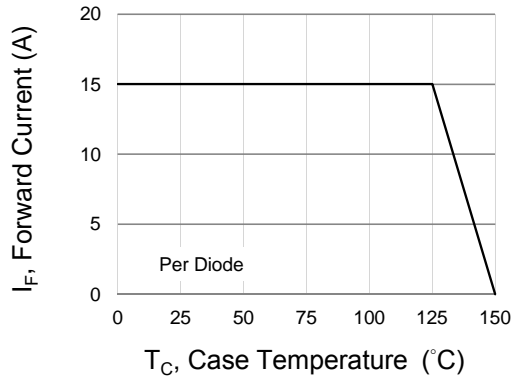


Fig.1 Forward Current Derating Curve

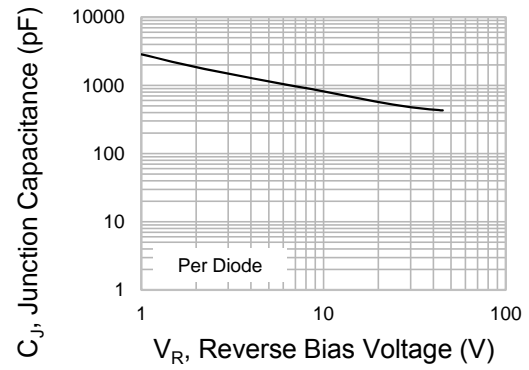


Fig.2 Typical Junction Capacitance

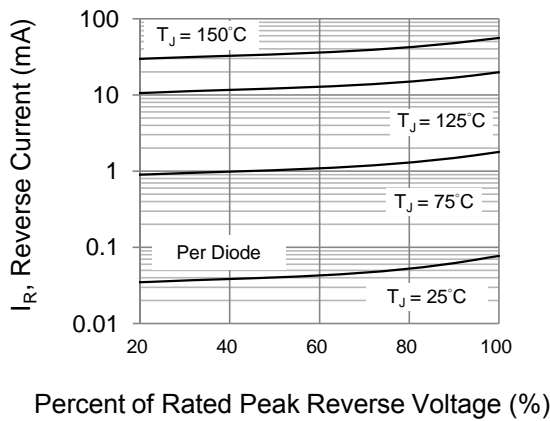


Fig.3 Typical Reverse Characteristics

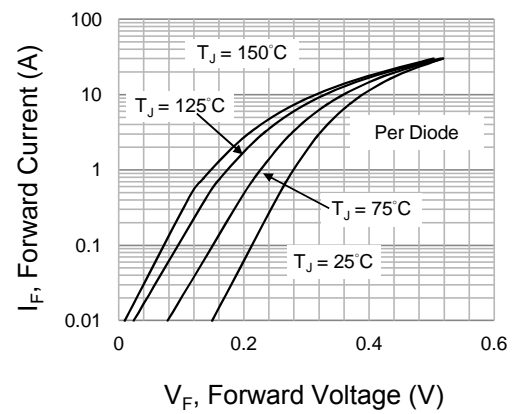


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL3040CT THRU MBRL30200CT

MBRL3050CT

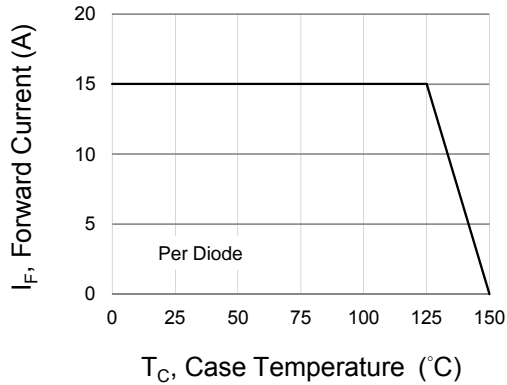


Fig.1 Forward Current Derating Curve

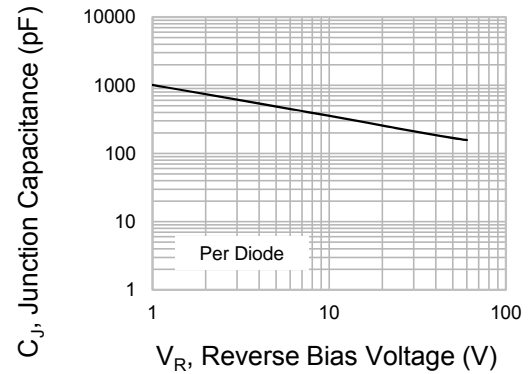


Fig.2 Typical Junction Capacitance

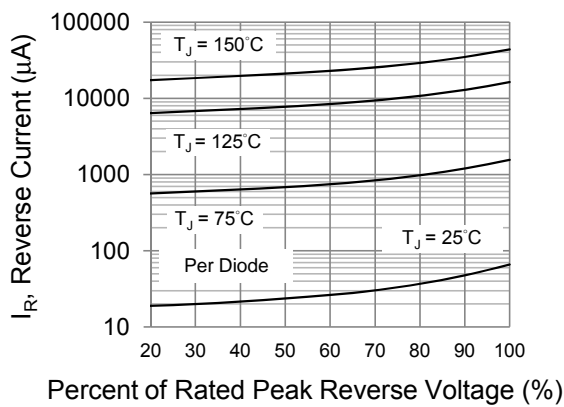


Fig.3 Typical Reverse Characteristics

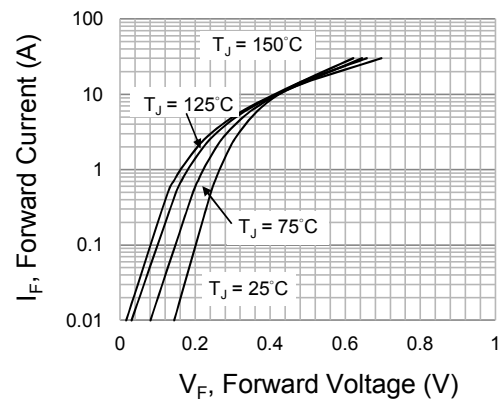


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL3040CT THRU MBRL30200CT

MBRL3060CT

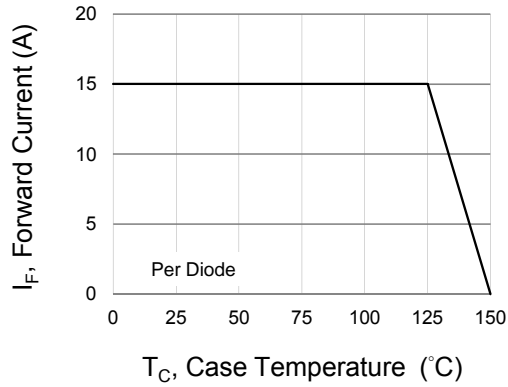


Fig.1 Forward Current Derating Curve

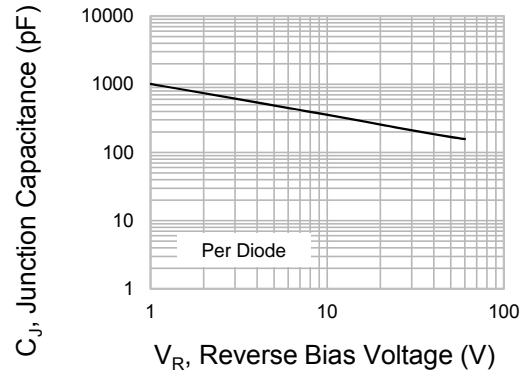


Fig.2 Typical Junction Capacitance

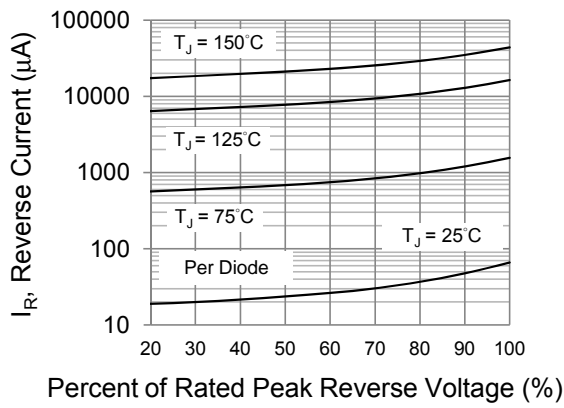


Fig.3 Typical Reverse Characteristics

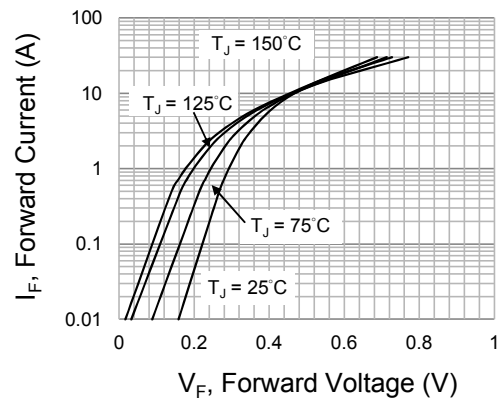


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

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MBRL30100CT

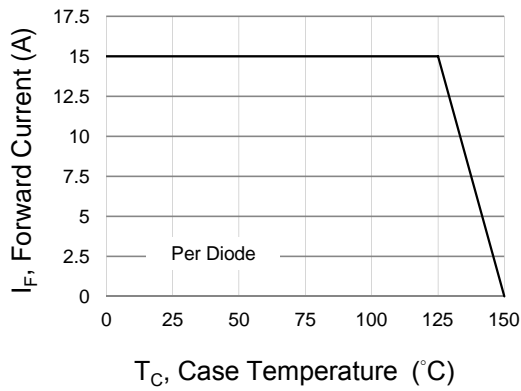


Fig.1 Forward Current Derating Curve

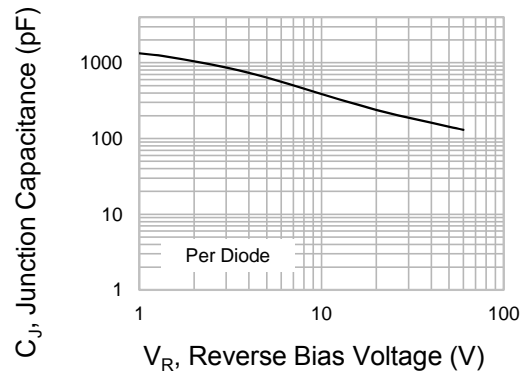


Fig.2 Typical Junction Capacitance

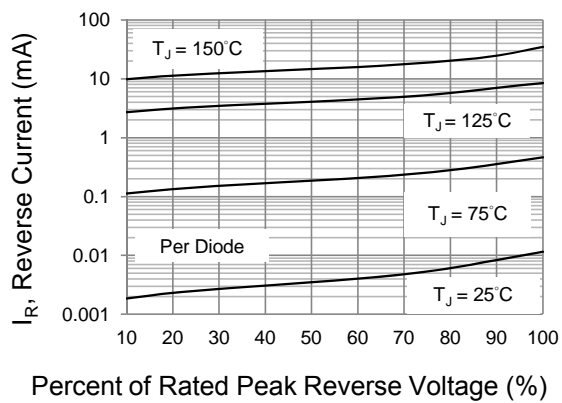


Fig.3 Typical Reverse Characteristics

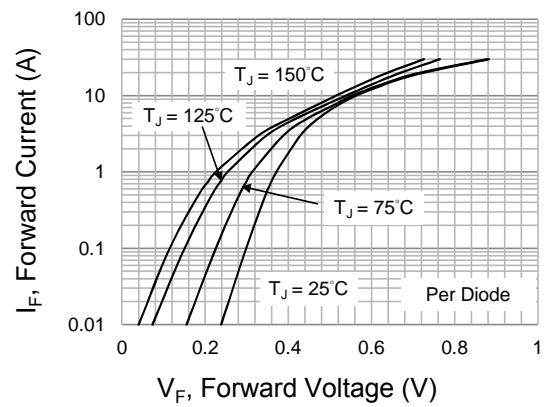


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

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MBRL30120CT

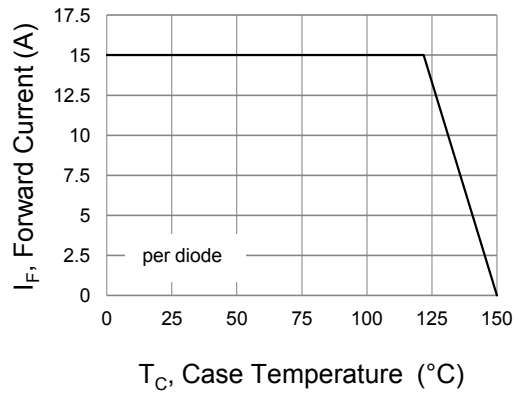


Fig.1 Forward Current Derating Curve

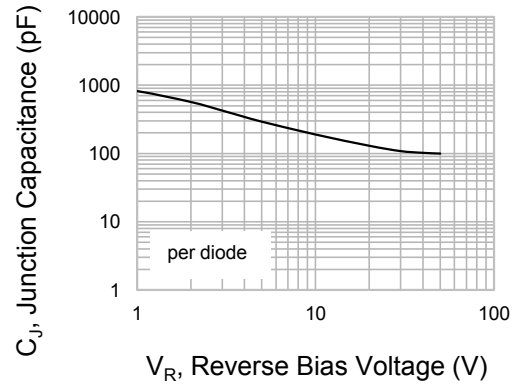


Fig.2 Typical Junction Capacitance

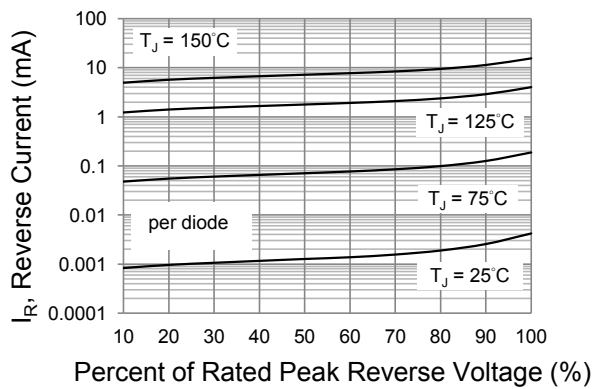


Fig.3 Typical Reverse Characteristics

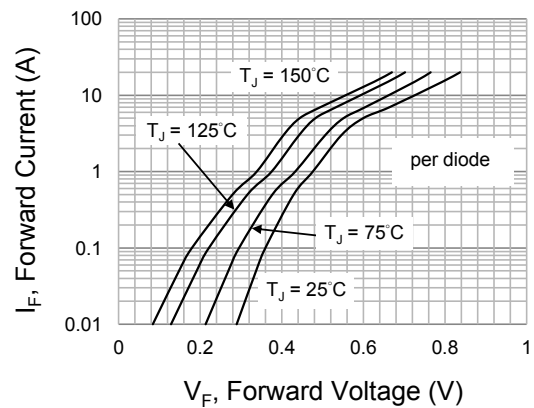


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

MBRL3040CT THRU MBRL30200CT

MBRL30150CT

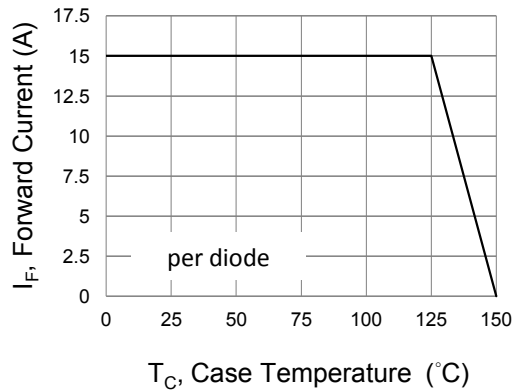


Fig.1 Forward Current Derating Curve

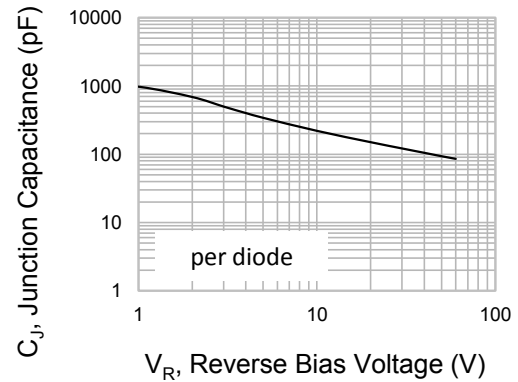


Fig.2 Typical Junction Capacitance

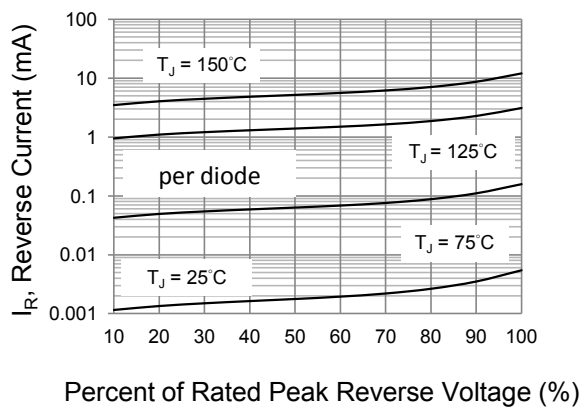


Fig.3 Typical Reverse Characteristics

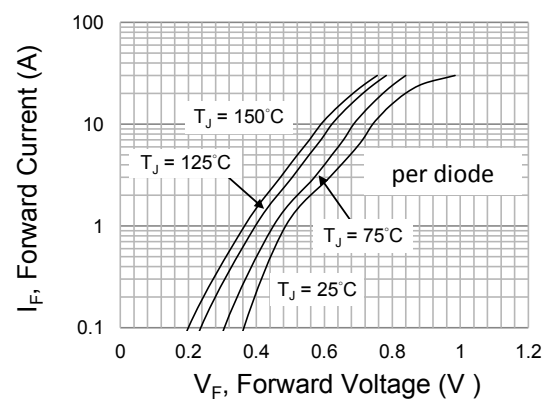


Fig.4 Typical Forward Characteristics

DEVICE CHARACTERISTICS

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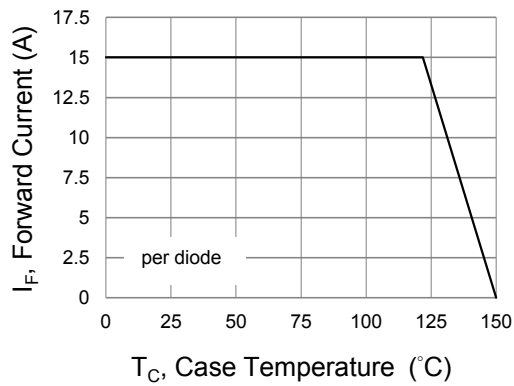


Fig.1 Forward Current Derating Curve

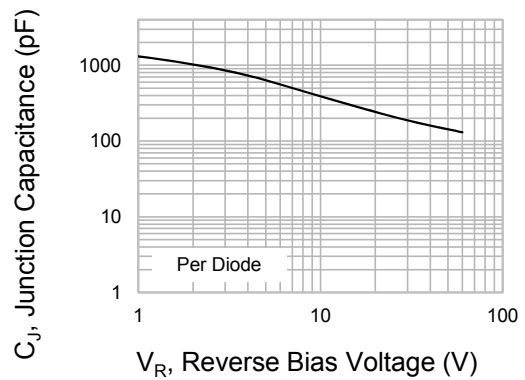


Fig.2 Typical Junction Capacitance

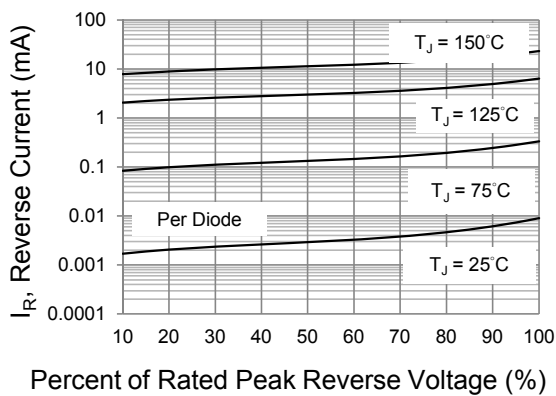


Fig.3 Typical Reverse Characteristics

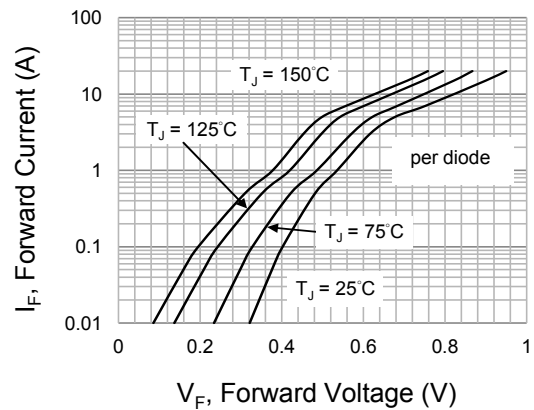


Fig.4 Typical Forward Characteristics