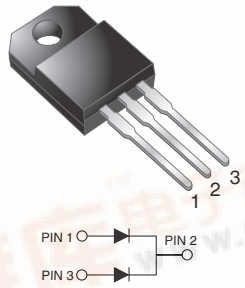
Dual Common-Cathode High-Voltage Schottky Rectifier

ITO-220AB



FEATURES

- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters or polarity protection application.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	5.0 A x 2
V_{RRM}	90 V, 100 V
I_{FSM}	120 A
V_F	0.75 V
T_J max.	150 °C

MECHANICAL DATA

Case: ITO-220AB

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T_C = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	MBRF1090CT	MBRF10100CT	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	90	100	V
Working peak reverse voltage		V_{RWM}	90	100	V
Maximum DC blocking voltage		V_{DC}	90	100	V
Maximum average forward rectified current at T_C = 105 °C	total device per diode	$I_{F(AV)}$	10 5.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode		I_{FSM}	120		A
Peak repetitive reverse current per diode at t_p = 2 µs, 1 kHz		I_{RRM}	0.5		A
Voltage rate of change (rated V_R)		dV/dt	10 000		V/µs
Operating junction and storage temperature range		T_J, T_{STG}	- 65 to + 150		°C
Isolation voltage from terminal to heatsink with t = 1 min		V_{AC}	1500		V

ELECTRICAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	MBRF1090CT	MBRF10100CT	UNIT
Maximum instantaneous forward voltage per diode (1)	I_F = 5.0 A I_F = 5.0 A	T_C = 125 °C T_C = 25 °C	V_F	0.75 0.85		V
Maximum reverse current per diode at working peak reverse voltage (1)		T_J = 25 °C T_J = 100 °C	I_R	100 6.0		µA mA

Note:

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)				
PARAMETER	**SYMBOL**	**MBRF1090CT**	**MBRF10100CT**	**UNIT**
Typical thermal resistance per diode	$R_{\theta JC}$	6.8		°C/W

ORDERING INFORMATION (Example)					
PACKAGE	**PREFERRED P/N**	**UNIT WEIGHT (g)**	**PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
ITO-220AB	MBRF10100CT-E3/45	1.99	45	50/tube	Tube

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

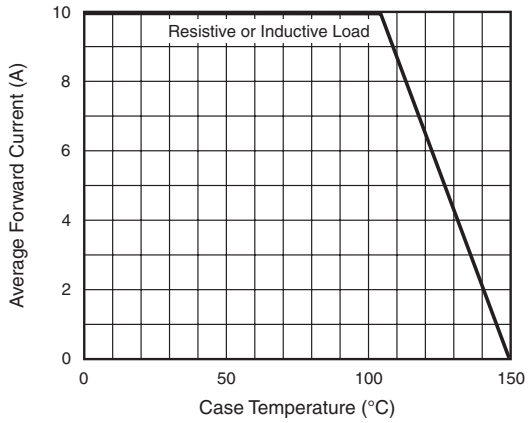


Figure 1. Forward Current Derating Curve

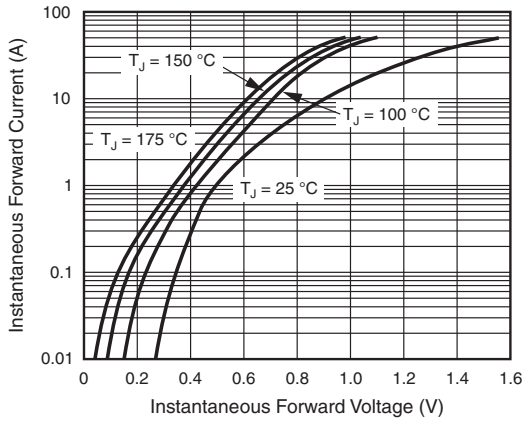


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

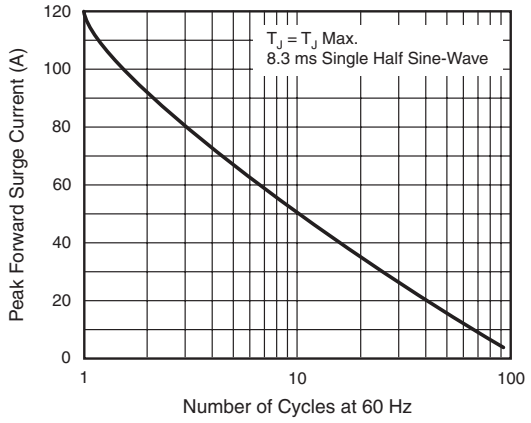


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

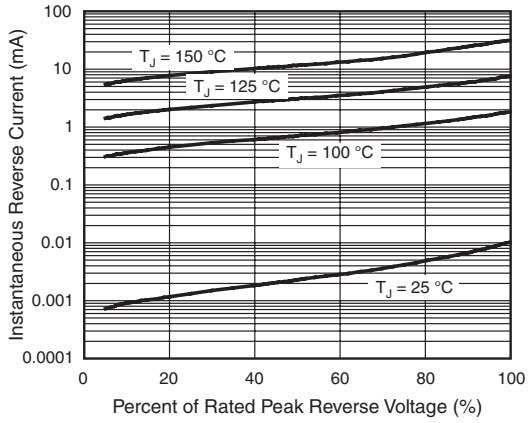


Figure 4. Typical Reverse Characteristics Per Diode

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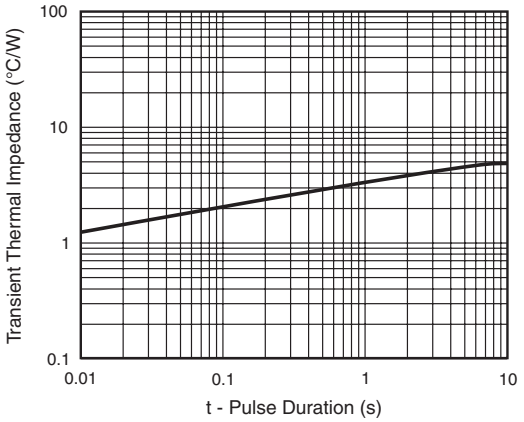


Figure 5. Typical Transient Thermal Impedance Per Diode

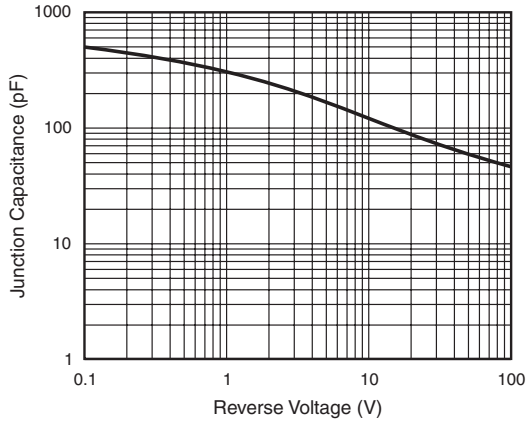
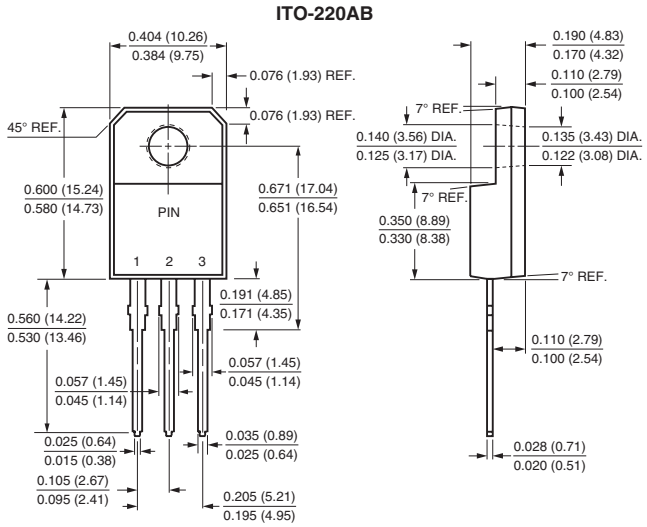


Figure 6. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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