Dual Common-Cathode High-Voltage Schottky Rectifier

Low Leakage Current 5.0 µA

Major Ratings and Characteristics

$I_{F(AV)}$	2 x 15 A
V_{RRM}	150 V
I_{FSM}	160 A
V_F	0.75 V
T_j	175 °C

Features

- Guardring for overvoltage protection
- Low power loss, high efficiency
- Low forward voltage drop
- High frequency operation
- Solder Dip 260 °C, 40 seconds

Mechanical Data

Case: TO-220AB, ITO-220AB, TO-262AA

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte Tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Mounting Torque: 10 in-lbs maximum

Polarity: As marked

Typical Applications

For use in high frequency inverters, free wheeling and polarity protection applications

Maximum Ratings

(T_C = 25 °C, unless otherwise noted)

Parameter		Symbol	MBR30H150CT	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	150	V
Working peak reverse voltage		V_{RWM}	150	V
Maximum DC blocking voltage		V_{DC}	150	V
Maximum average forward rectified current	Total device Per leg	$I_{F(AV)}$	30 15	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per leg		I_{FSM}	260	A
Peak repetitive reverse current per leg at t_p = 2 µs, 1 KHz		I_{RRM}	1.0	A
Peak non-repetitive reverse surge energy per leg (8/20 µs waveform)		E_{RSM}	10	mJ
Non-repetitive avalanche energy per leg at 25 °C, I_{AS} = 2.0 A, L = 10 mH		E_{AS}	20	mJ
Voltage rate of change (rated V_R)		dv/dt	10000	V/µs
Operating junction and storage temperature range		T_J, T_{STG}	- 65 to + 175	°C
Isolation voltage (ITO-220AB only) From terminals to heatsink t = 1 minute		V_{AC}	1500	V

Electrical Characteristics

(T_C = 25 °C unless otherwise noted)

Parameter	Test conditions	Symbol	Value	Unit
Maximum instantaneous forward voltage per leg(1)	at I_F = 15 A, T_C = 25 °C at I_F = 15 A, T_C = 125 °C at I_F = 30 A, T_C = 25 °C	V_F	0.90 0.75 0.99 0.86	V
Maximum reverse current per leg at working peak reverse voltage(1)	T_J = 25 °C T_J = 125 °C	I_R	5.0 1.0	μA mA

Thermal Characteristics

(T_C = 25 °C unless otherwise noted)

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Typical thermal resistance per leg	$R_{\theta JC}$	1.7	4.0	1.7	°C/W

Notes:

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

Ratings and Characteristics Curves

(T_A = 25 °C unless otherwise noted)

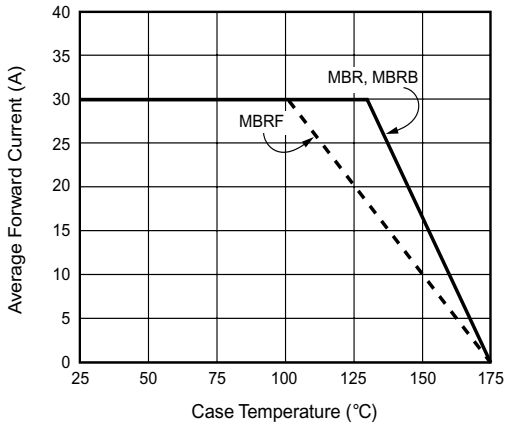


Figure 1. Forward Derating Curve (Total)

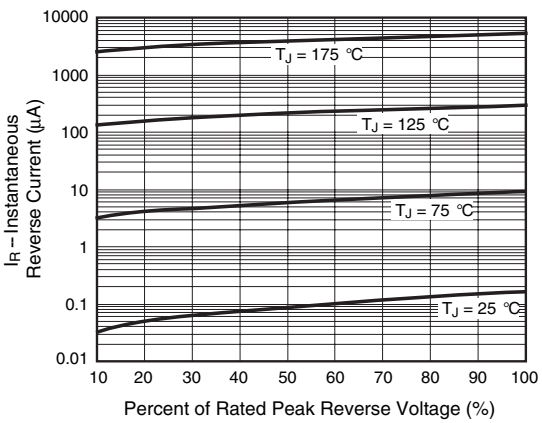


Figure 4. Typical Reverse Characteristics Per Leg

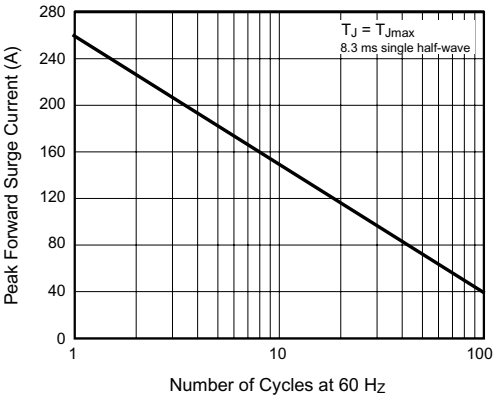


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

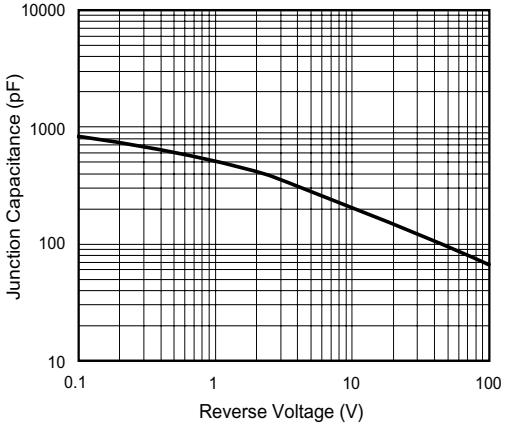


Figure 5. Typical Junction Capacitance Per Leg

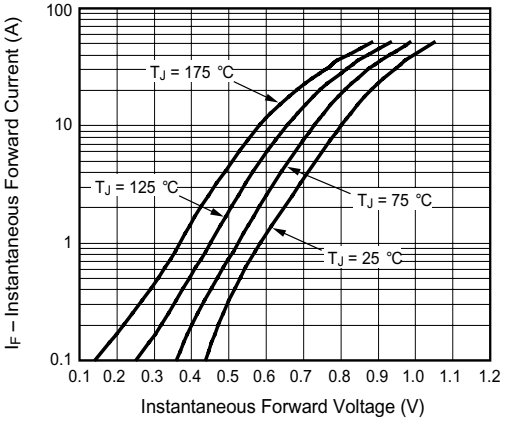


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

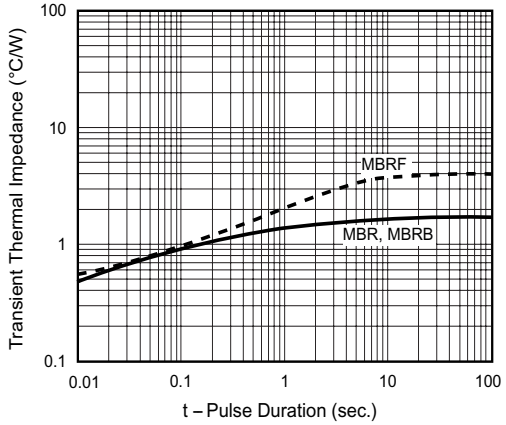
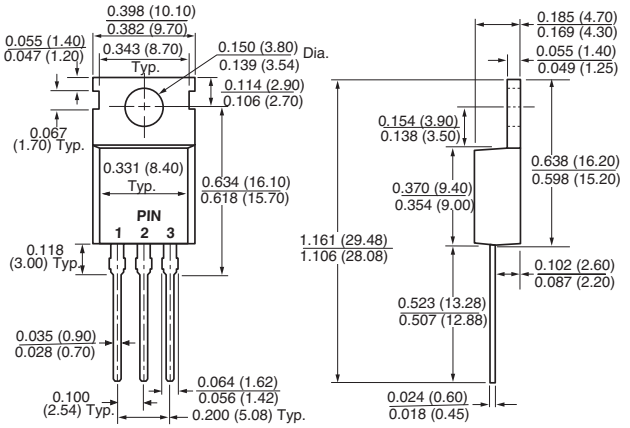


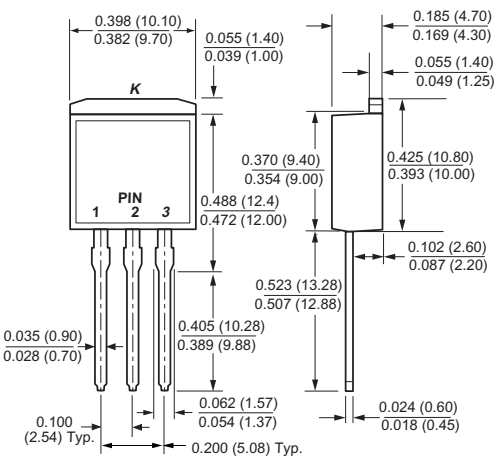
Figure 6. Typical Transient Thermal Impedance Per Leg

Package outline dimensions in inches (millimeters)

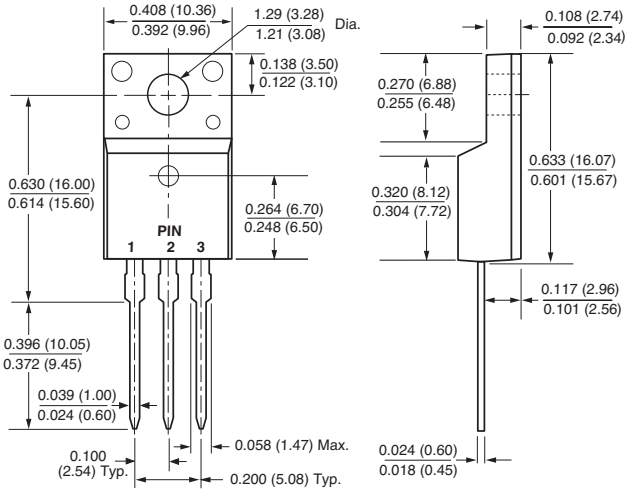
TO-220AB



TO-262AA



ITO-220AB



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