



HBR(X)40100CT

Trench Schottky Barrier Rectifier

Reverse Voltage 100 Volts Forward Current 40 Amperes

Features

Ultra Low $V_F=0.56V$ at $I_F=10A$ (25°C)

Ultra Low $V_F=0.71V$ at $I_F=20A$ (25°C)

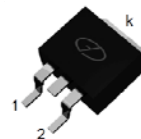
- Low forward voltage drop, low power losses
- High efficiency operation
- Plastic package has underwriters Laboratory Flammability Classification 94V-0



Package: ITO-220-AB
HBRF40100CT



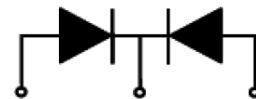
Package: TO-220-AB
HBR40100CT



Package: TO-263
HBRB40100CT

Mechanical Data

- Case: Epoxy, Molded
- Weight: 1.9grams(TO220/ITO220), 1.40grams(TO263) (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 50 units per plastic tube or tape reel packing 800/reel(TO263)



1. Anode 2. Cathode 3. Anode

Maximum Ratings & Electrical Characteristics

($T_A=25^\circ C$ unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	HBR(X)40100CT	UNIT
Maximum repetitive peak reverse voltage			V_{RRM}	100	V
Working peak reverse voltage			V_{RWM}	100	V
Maximum DC blocking voltage			V_{DC}	100	V
Maximum average forward rectified current at $T_c=105^\circ C$ total device per diode			$I_F(AV)$	40 20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			I_{FSM}	200	A
Peak repetitive reverse current per leg at $t_p=2.0\mu s$, 1KHz			I_{RRM}	2.0	A
Voltage rate of change (rated V_R)			DV/dt	10000	V/ μs
Operating junction temperature range			T_J	-55 to +150	$^\circ C$
Storage temperature range			T_{STG}	-55 to +150	$^\circ C$
Isolation voltage (ITO-220-AB only) from terminal to heatsink $t = 1$ sec			V_{AC}	1500	V
Maximum instantaneous forward voltage per leg	$I_F=20A$ $I_F=20A$	$T_C=25^\circ C$ $T_C=125^\circ C$	V_F	0.76(0.71TYP) 0.69	V
Maximum reverse current per leg at working peak Reverse voltage		$T_J=25^\circ C$ $T_J=100^\circ C$	I_R	200 15	μA mA

Thermal Characteristics $T_A=25^\circ C$ unless otherwise noted

Symbol	Parameter	TYP (TO-220-AB/TO263)	TYP (ITO-220-AB)	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case per Leg	2.0	4.0	$^\circ C / W$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg	62.5	62.5	$^\circ C / W$

Note: Pulse test: 300 μs pulse width, duty cycle=2%



Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

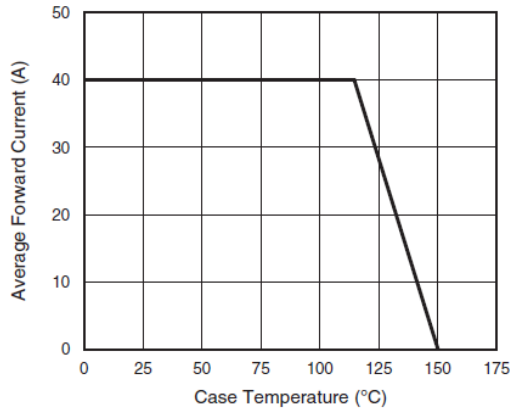


Fig. 1 - Forward Current Derating Curve

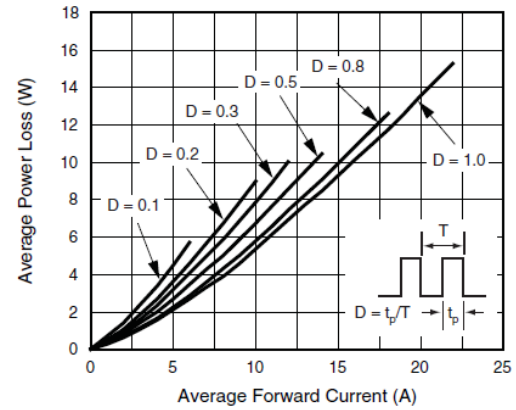


Fig. 2 - Forward Power Loss Characteristics Per Diode

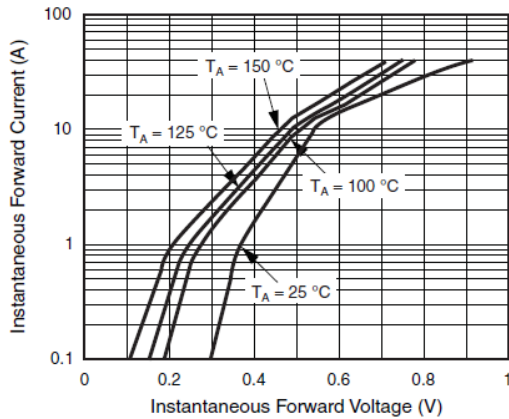


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

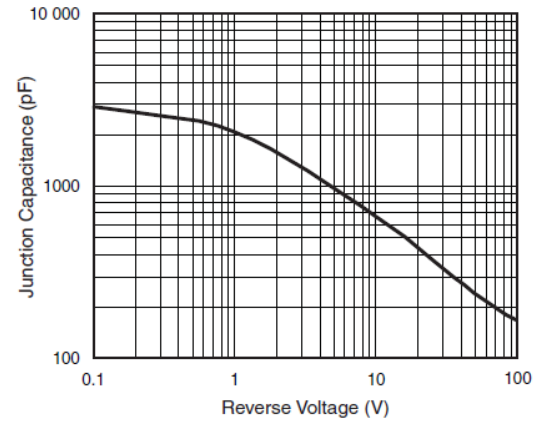


Fig. 5 - Typical Junction Capacitance Per Diode

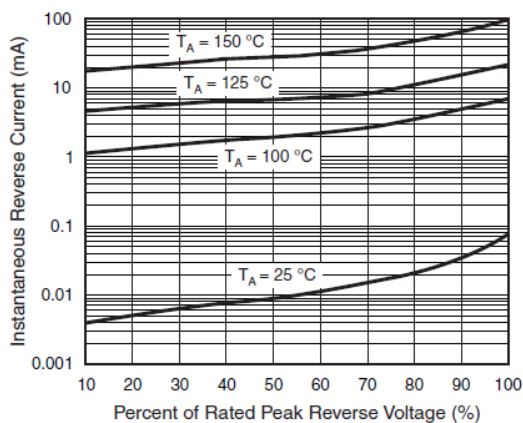


Fig. 4 - Typical Reverse Characteristics Per Diode

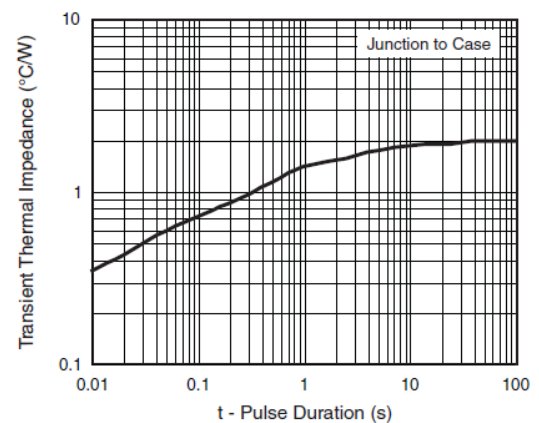
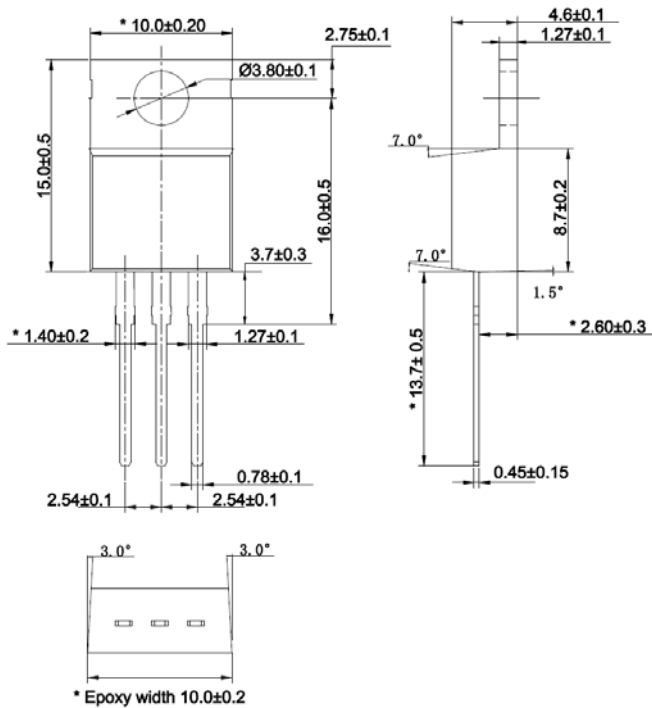


Fig. 6 - Typical Transient Thermal Impedance Per Diode

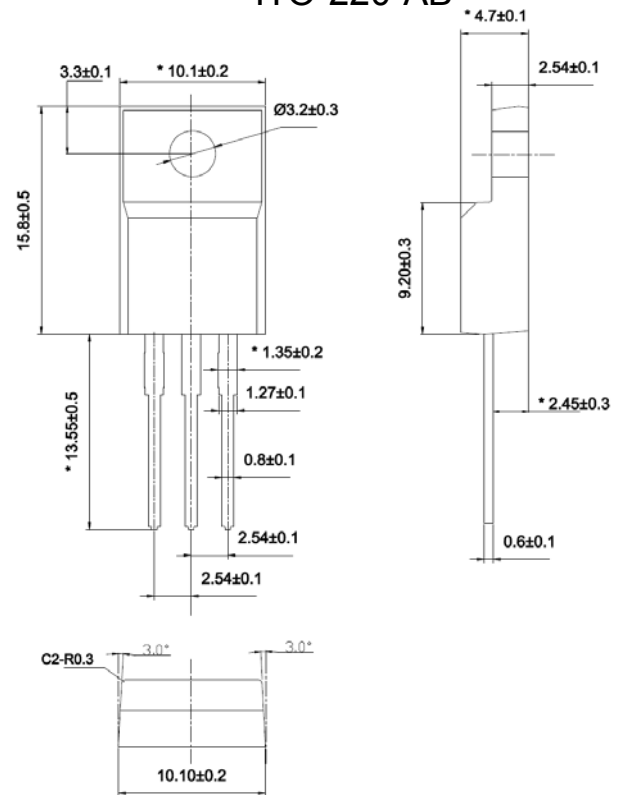
Package Outline Dimensions

Unit: millimeters

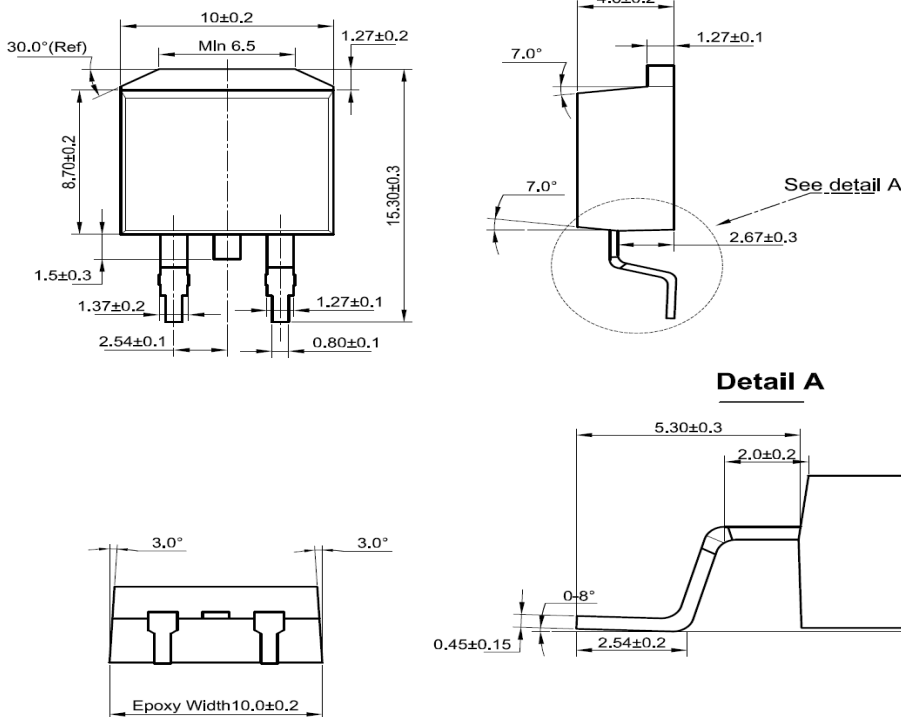
TO-220-AB



ITO-220-AB



TO-263





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Trench Schottky Barrier Rectifier
Reverse Voltage 100 Volts Forward Current 40 Amperes

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