



PCBR(X)40100CT

Trench Schottky Barrier Rectifier

Reverse Voltage 100 Volts Forward Current 40 Amperes

Features

Ultra Low $V_F=0.46V$ at $IF=3A$ ($25^\circ C$)

Ultra Low $V_F=0.82V$ at $IF=20A$ ($25^\circ C$)

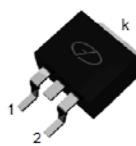
- Low forward voltage drop, low power losses
- High efficiency operation
- Plastic package has underwriters Laboratory Flammability Classification 94V-0



Package: ITO-220-AB
PCBRF40100CT



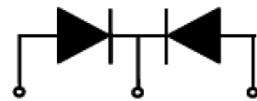
Package: TO-220-AB
PCBR40100CT



Package: TO-263
PCBRB40100CT

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: $260^\circ C$ 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	PCBR(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	A
				20	
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/us
Operating junction temperature range			T_J	—55 to+150	°C
Storage temperature range			T_{STG}	—55 to+150	°C
Isolation voltage (ITO-220-AB only) from terminal to heatsink $t = 1$ sec			V_{AC}	1500	V
Maximum instantaneous forward voltage per leg	$I_F=20A$	$T_c=25^\circ C$	V_F	0.90(0.82TYP)	V
	$I_F=20A$	$T_c=125^\circ C$		0.80	
Maximum reverse current per leg at working peak		$T_J=25^\circ C$	I_R	200	uA
Reverse voltage		$T_J=100^\circ C$		15	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	°C /W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg	62.5	62.5	°C /W

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





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Ratings and Characteristics Curves

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

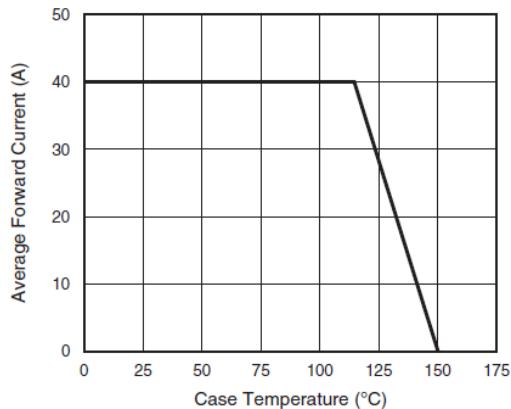


Fig. 1 - Forward Current Derating Curve

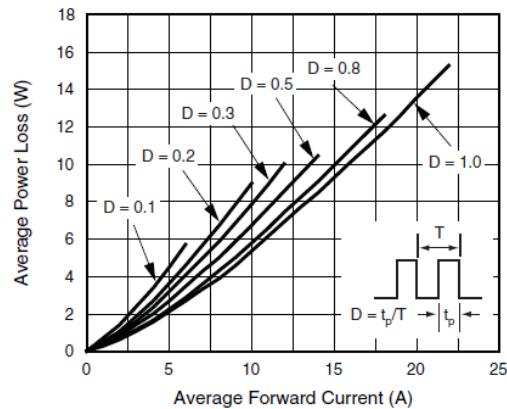


Fig. 2 - Forward Power Loss Characteristics Per Diode

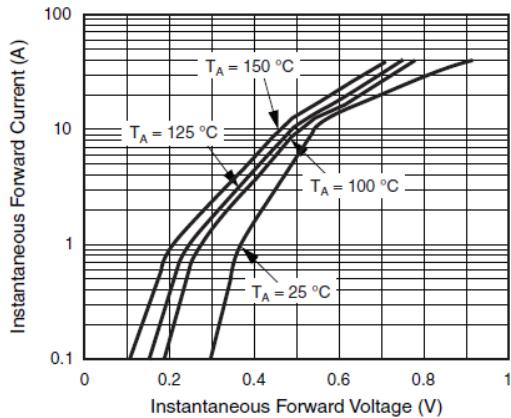


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

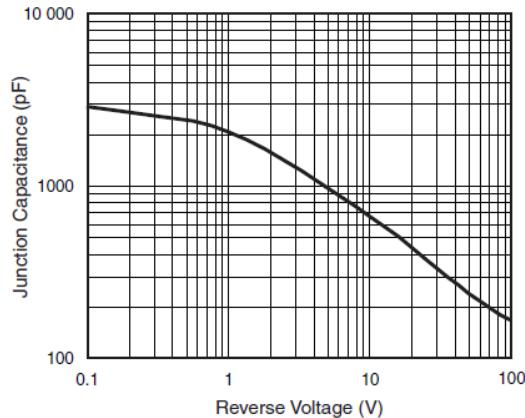


Fig. 5 - Typical Junction Capacitance Per Diode

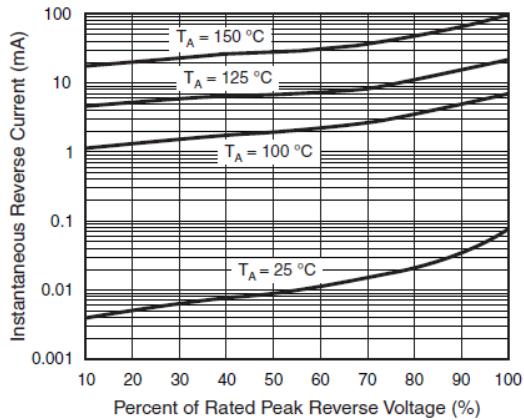


Fig. 4 - Typical Reverse Characteristics Per Diode

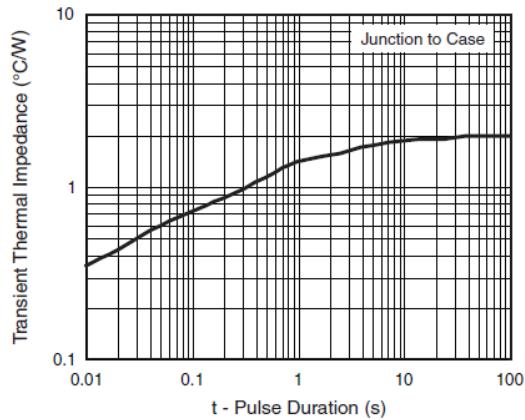


Fig. 6 - Typical Transient Thermal Impedance Per Diode





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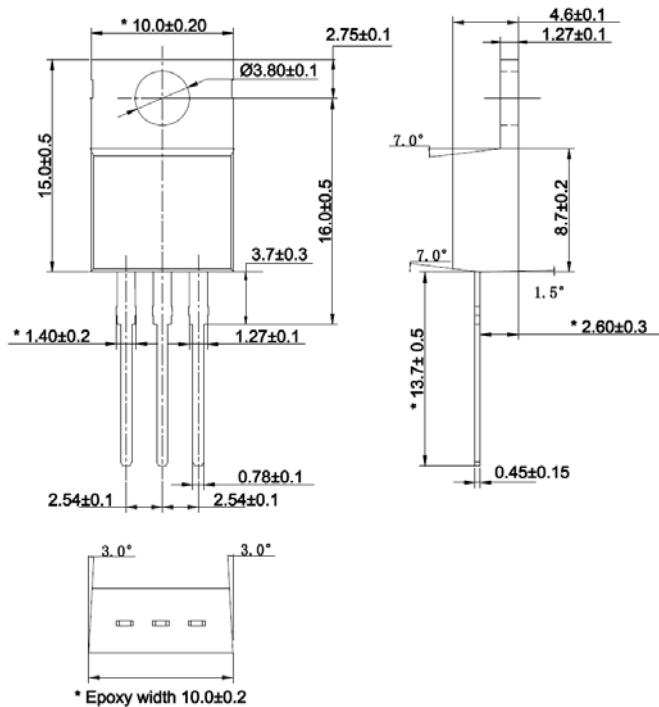
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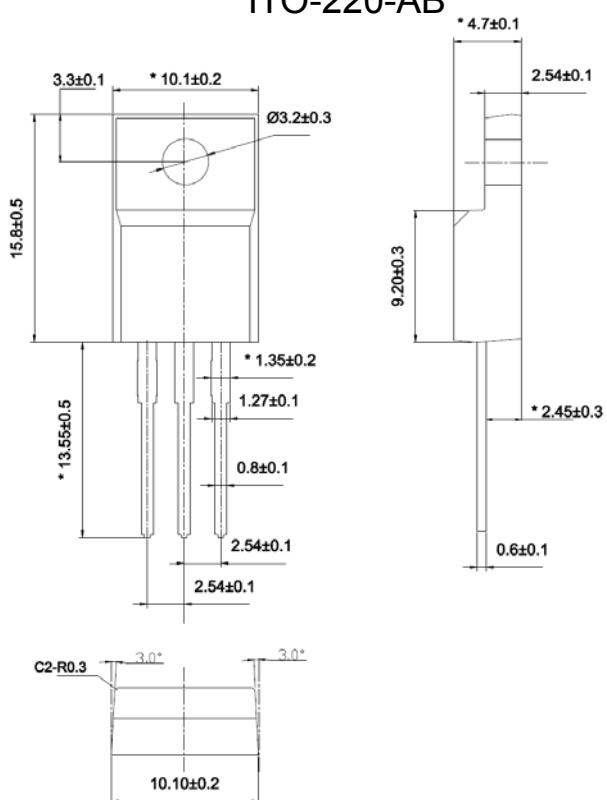
Package Outline Dimensions

Unit: millimeters

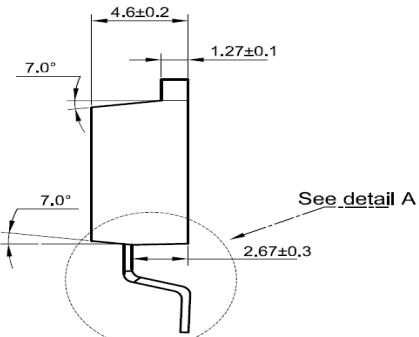
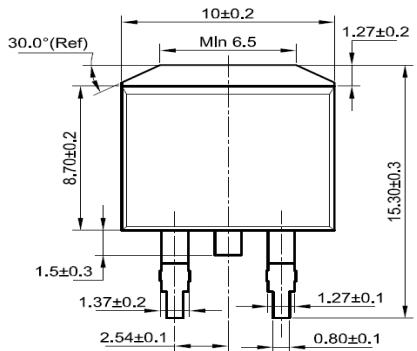
TO-220-AB



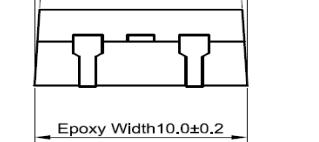
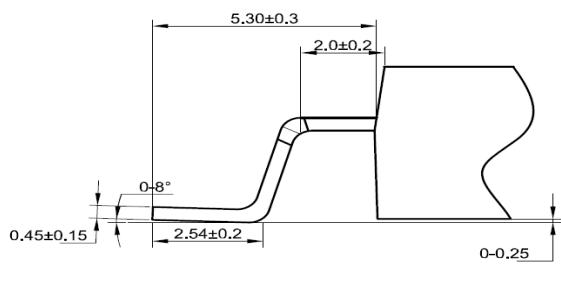
ITO-220-AB



TO-263



Detail A





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