

SBRx40100CT

Trench Schottky Barrier Rectifier
Reverse Voltage 100 V Forward Current 40 A

Features

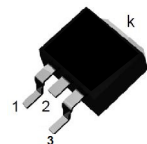
- Low forward voltage drop, low power loss
- High efficiency operation
- Plastic package has underwriters Laboratory Flammability Classification 94V-0



Package: ITO-220-AB
SBRF40100CT



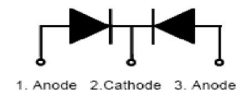
TO-220-AB
SBR40100CT



TO-263
SBRB40100CT

Mechanical Data

- Case: Epoxy, Molded
- Weight: 1.9grams(TO220/ITO220), 1.4grams(TO263) (approximately)
- All external surfaces corrosion resistant and terminal leads are readily solderable
- Lead temperature for soldering purposes: 260°C Max. for 10 sec.
- Shipped by 50 units per plastic tube or tape reel packing 800/reel(TO263)



Maximum Ratings and Electrical Characteristics

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

Parameter	Test Conditions	Symbol	Value	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 @ $T_c=105^\circ\text{C}$ total device per diode	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 @ $t_p=2.0\mu\text{s}$, 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	$^\circ\text{C}$
Storage Temperature Range		T_{STG}	-55 to +150	$^\circ\text{C}$
Isolation Voltage (ITO-220-AB only) From Terminal to Heatsink $t = 1$ sec		V_{AC}	1500	V
Typical Instantaneous Forward Voltage Per Leg	$I_F=10\text{A}$ $I_F=20\text{A}$	V_F	0.51 0.62	V
Maximum Instantaneous Forward Voltage Per Leg	$I_F=20\text{A}$ $T_C=25^\circ\text{C}$ $I_F=20\text{A}$ $T_C=125^\circ\text{C}$		0.66 0.59	
Maximum Reverse Current Per Leg @Working Peak Reverse Voltage	$T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$		I_R	

Thermal Characteristics

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	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg	62.5	62.5	$^\circ\text{C}/\text{W}$

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

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

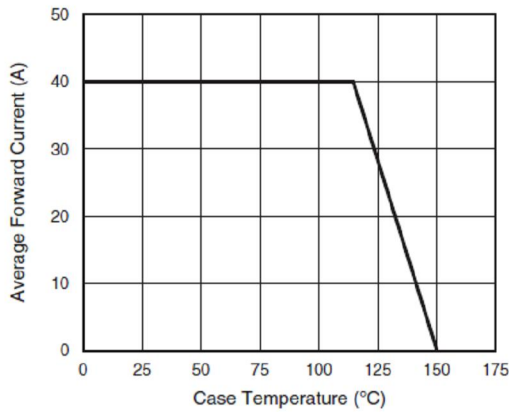


Fig. 1 - Forward Current Derating Curve

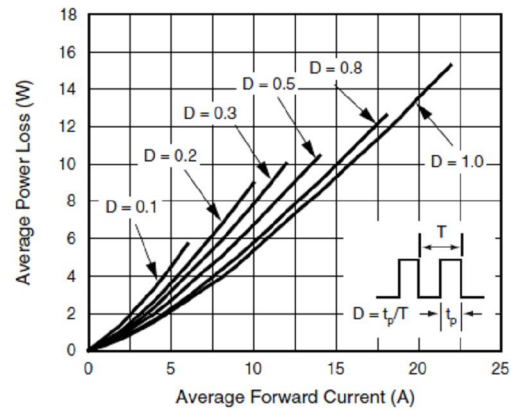


Fig. 2 - Forward Power Loss Characteristics Per Diode

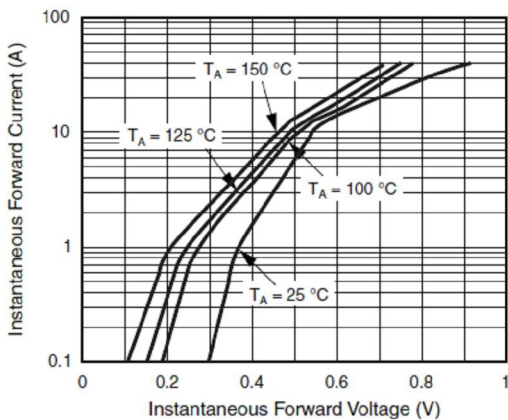


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

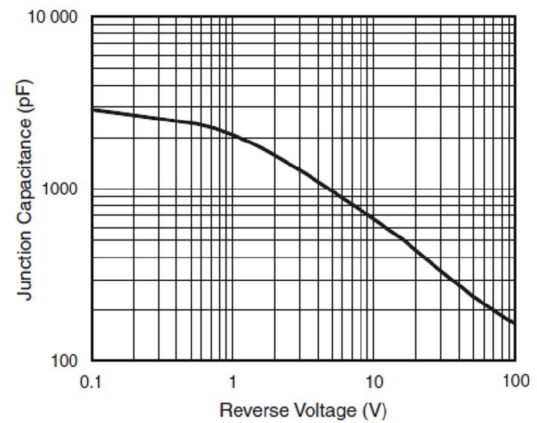


Fig. 4 - Typical Junction Capacitance Per Diode

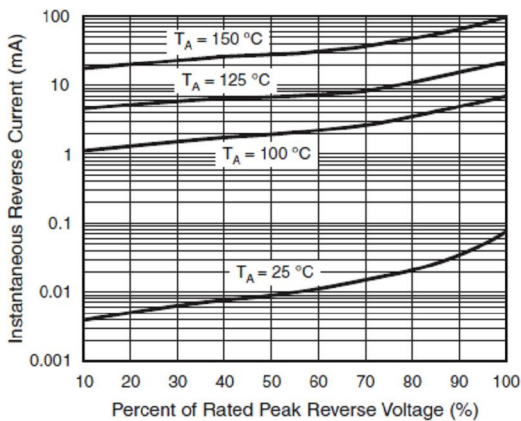


Fig. 5 - Typical Reverse Characteristics Per Diode

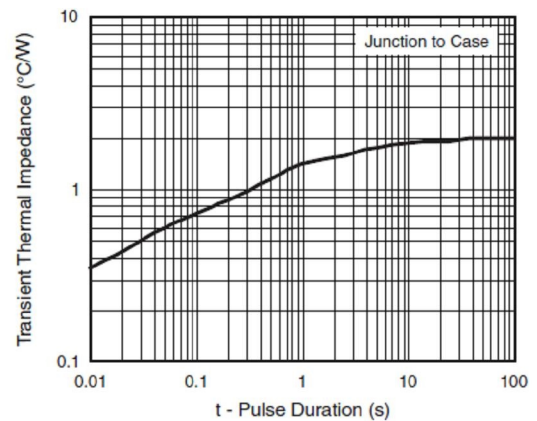


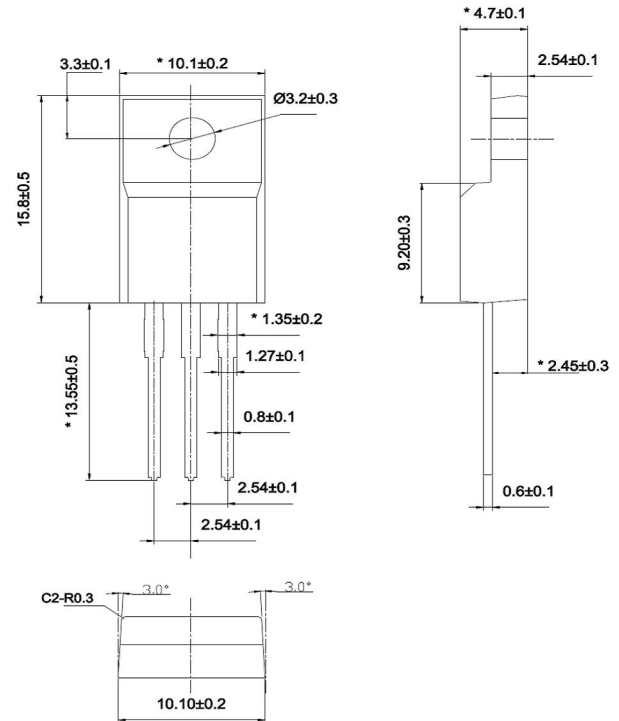
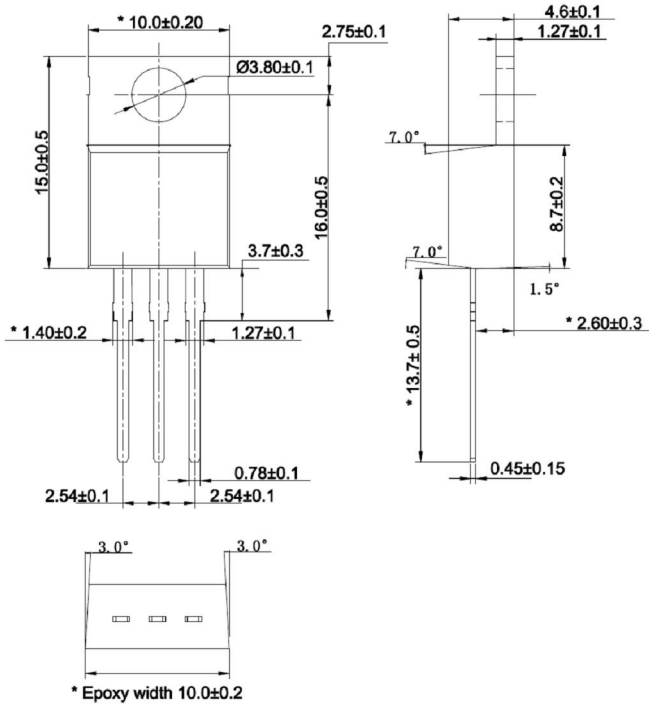
Fig. 6 - Typical Transient Thermal Impedance Per Diode

Package Outline Dimensions

Unit: millimeters

TO-220-AB

ITO-220-AB



TO-263

