August 2017

SemiHow
Know-How for Semiconductor

SBRx40150CT

40A/150V Trench Schottky Barrier Rectifier

Features

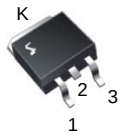
- ❑ Plastic package has underwriters laboratory flammability classification 94V-0
- ❑ Low forward voltage drop, low power loss
- ❑ High efficiency operation
- ❑ Ultra Low $V_{F(Typ)}$=0.72V @I_F=10A, T_J=25℃
  $V_{F(Typ)}$=0.78V @I_F=20A, T_J=25℃

Mechanical Data

- ❑ Case: epoxy, molded
- ❑ Weight: 1.9grams(TO220/TO220F), 1.4grams(TO263) (approximately)
- ❑ Finish: all external surfaces corrosion resistant and terminal leads readily solderable
- ❑ Lead temperature for soldering purpose: 260℃ max. for 10 sec
- ❑ 50 units per plastic tube or tape reel packing 800/reel(TO263)

SBR40150CT
TO-220

SBRB40150CT
TO-263



SBRF40150CT
TO-220F

Schematic Diagram

1. Anode 2. Cathode 3.Anode

Maximum Ratings and Electrical Characteristics (T_A=25℃ unless otherwise specified)

Symbol	Parameter		Value	Unit
V_{RRM}	Maximum Repetitive Peak Reverse Voltage		150	V
V_{RWM}	Working Peak Reverse Voltage		150	V
V_{DC}	Maximum DC Blocking Voltage		150	V
$I_{F(AV)}$	Maximum Average Forward Rectified Current @ T_C=105℃	Total Device Per Diode	40 20	A
I_{FSM}	Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load Per Diode		250	A
I_{RRM}	Peak Repetitive Reverse Current Per Leg at tp=2.0μs, 1KHz		2.0	A
DV/dt	Voltage Rate of Change （rated V_R）		10000	V/μs
V_F	Maximum Instantaneous Forward Voltage Per Leg	I_F=20A, T_C=25℃ I_F=20A, T_C=125℃	0.84(0.78TYP) 0.76	V V
I_R	Maximum Reverse Current Per Leg at Working Peak Reverse Voltage	T_J=25℃ T_J=100℃	200 15	μA mA
VAC	Isolation Voltage (TO-220F only) from Terminal to Heat sink t=1sec		1500	V
T_J	Operating Junction Temperature Range		-55 to +150	℃
T_{STG}	Storage Temperature Range		-55 to +150	℃

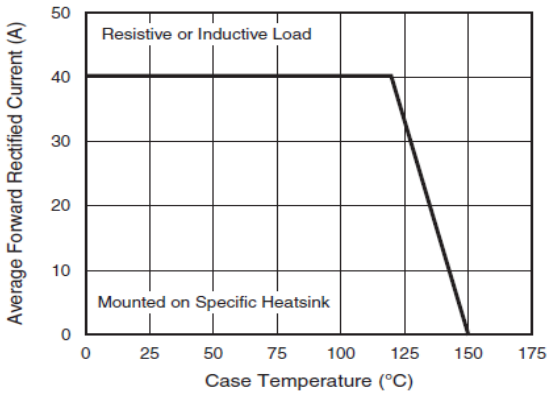
Thermal Resistance Characteristics

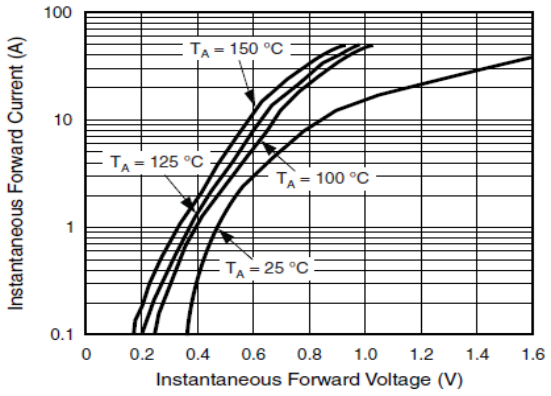
Symbol	Parameter	TO220/TO263	TO-220F	Unit
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case per Leg, Typ.	2.0	4.0	℃/W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient per Leg, Typ.	62.5	62.5	℃/W

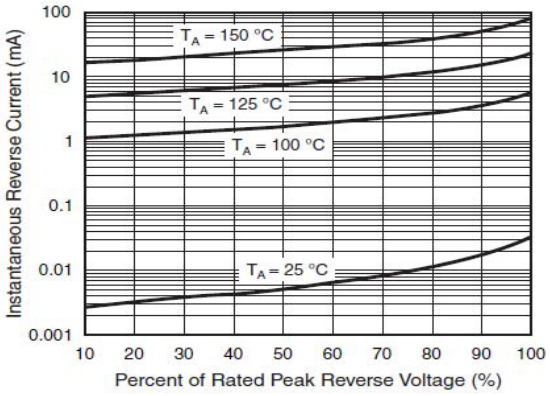
Notes : Pulse test : 300us pulse width, duty cycle = 2%

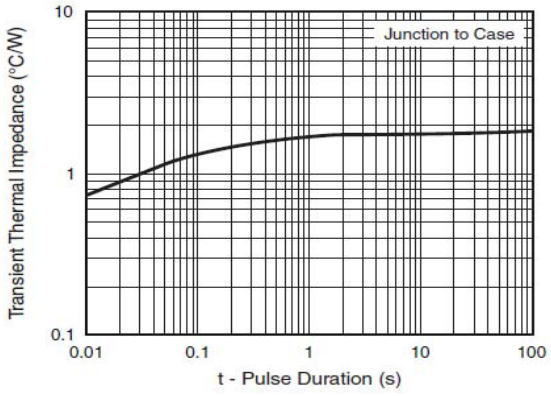
Rating and Characteristic Curves

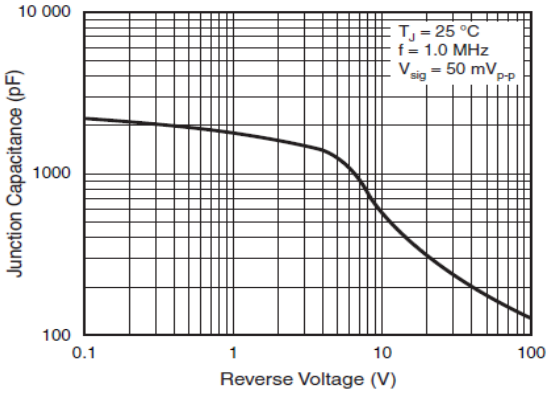
(T_A=25℃ Unless otherwise noted)







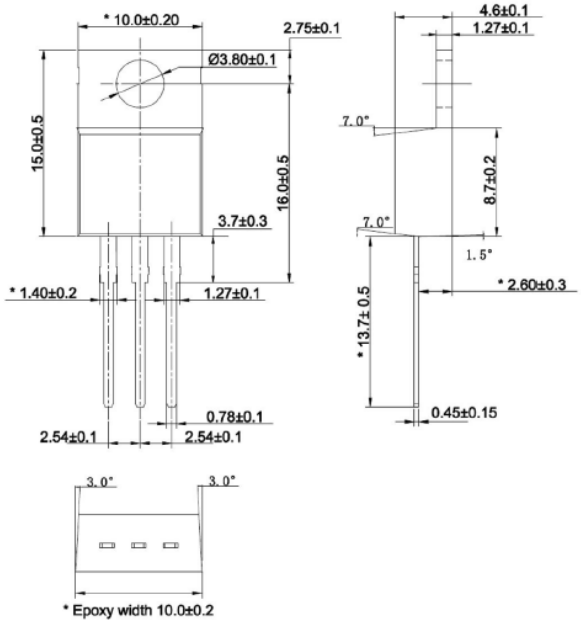




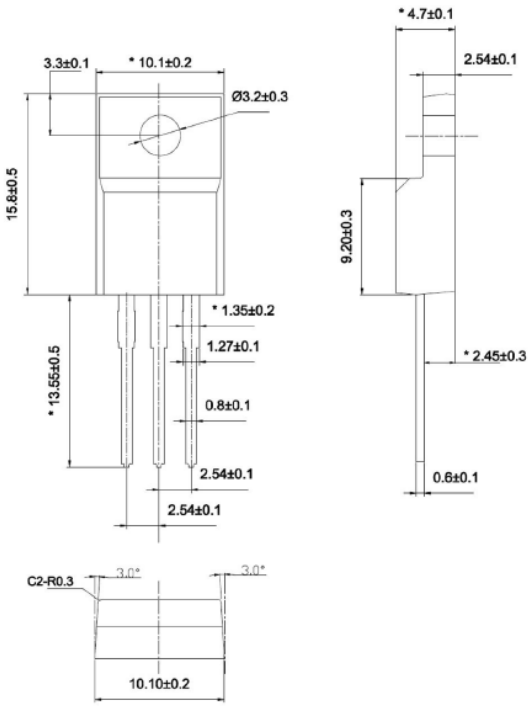
Package Outline Dimension

In millimeters

TO-220



TO-220F



TO-263