

SBR20300S/SBRF20300S/SBRB20300S

Trench Schottky Barrier Rectifier
 Reverse Voltage 300 V Forward Current 20 A

Features

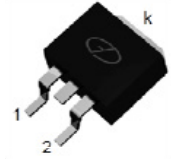
- Low forward voltage drop, low power losses
- High efficiency operation
- Plastic package has underwriters Laboratory Flammability Classification 94V-0



Package: TO-220-AB
SBR20300S



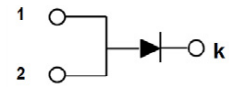
Package: ITO-220-AB
SBRF20300S



Package: TO-263
SBRB20300S

Mechanical Data

- Case: epoxy, molded
- Weight: 1.9 grams(TO-220/ITO-220),1.40 grams(TO-263) (approximately)
- Finish: all external surfaces corrosion resistant and terminal leads are readily solderable
- Lead temperature for soldering purposes: 260°C max. for 10 sec
- 50 units per plastic tube or tape reel packing 800/reel(TO-263)



Schematic Diagram

Maximum Ratings & Electrical Characteristics

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

Parameter	Test Conditions		Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage			V_{RRM}	300	V
Working Peak Reverse Voltage			V_{RWM}	300	V
Maximum DC Blocking Voltage			V_{DC}	300	V
Maximum Average Forward Rectified Current at $T_c=105^{\circ}\text{C}$			$I_{F(AV)}$	20	A
Peak Forward Surge Current (8.3ms single half sine-wave superimposed on rated load per diode)			I_{FSM}	150	A
Peak Repetitive Reverse Current Per Leg at $t_p=2.0\mu\text{s}$, 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	$^{\circ}\text{C}$
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
Maximum Instantaneous Forward Voltage Per Leg	$I_F=10\text{A}$ $I_F=10\text{A}$	$T_C=25^{\circ}\text{C}$ $T_C=125^{\circ}\text{C}$	V_F	0.86 (0.81 typ.) 0.81	V
Maximum Reverse Current Per Leg at Working Peak Reverse Voltage	$T_J=25^{\circ}\text{C}$ $T_J=100^{\circ}\text{C}$		I_R	200 15	μA mA

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

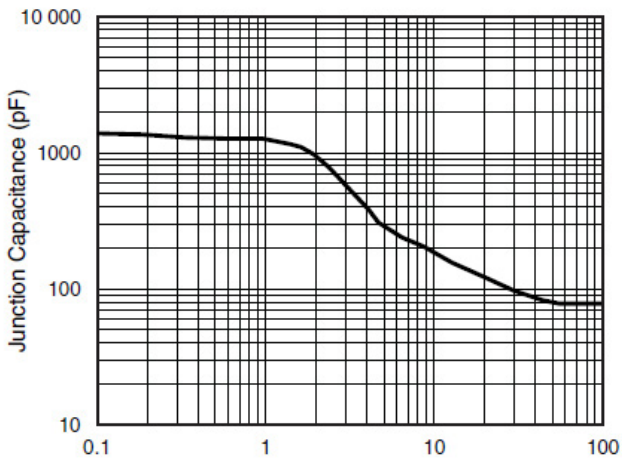
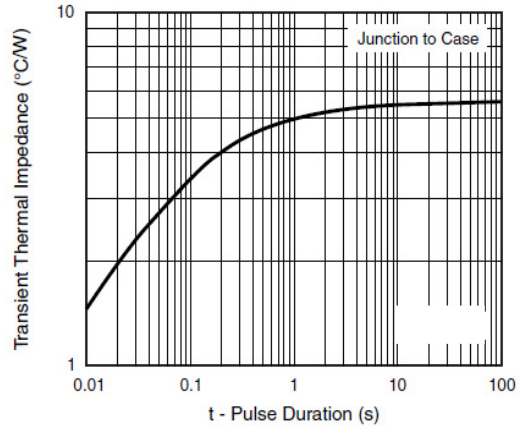
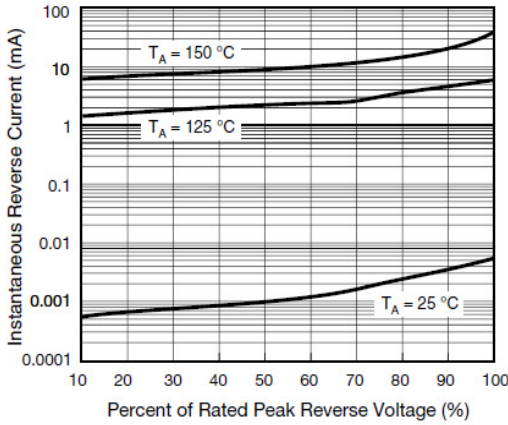
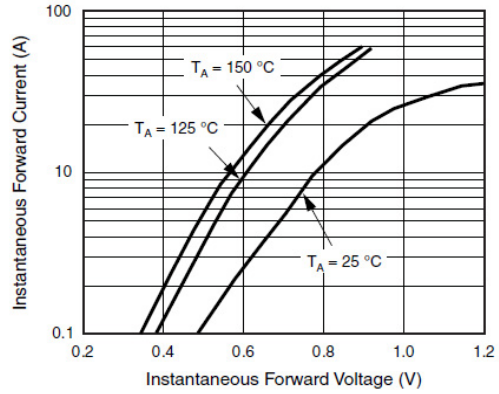
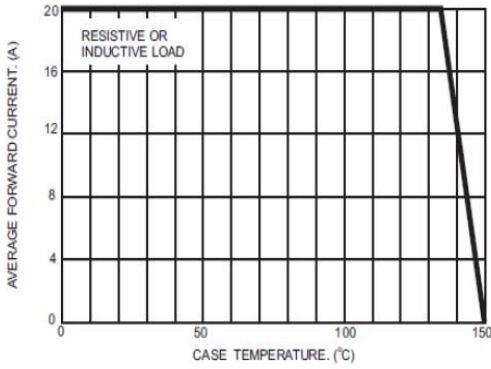
Symbol	Parameter	Typ (TO-220-AB/TO263)	Typ (ITO-220-AB)	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case Per Leg	2.0	4.0	$^{\circ}\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Per Leg	62.5	62.5	$^{\circ}\text{C}/\text{W}$

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

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

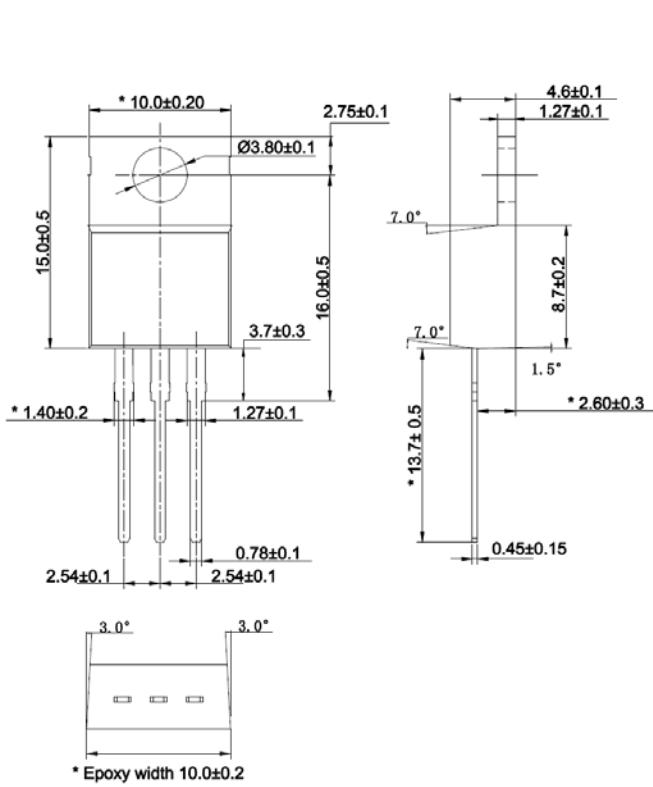


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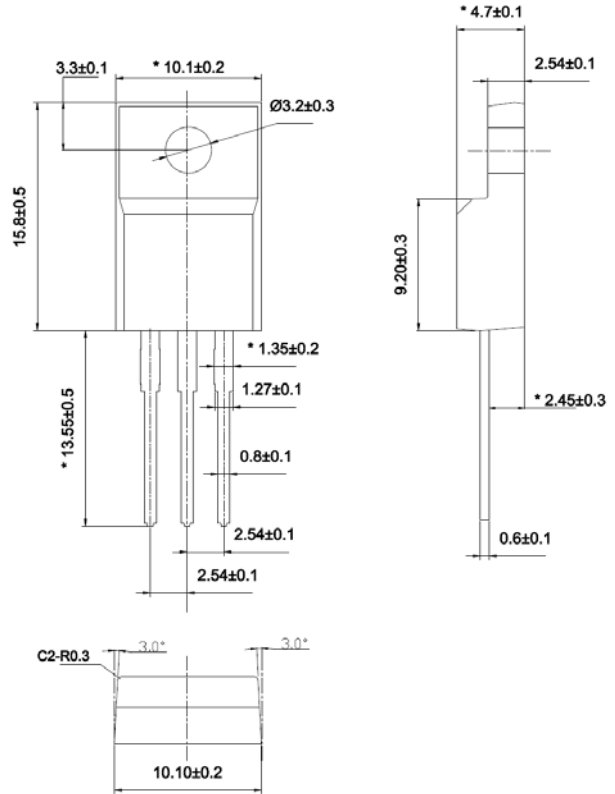
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Unit: millimeters

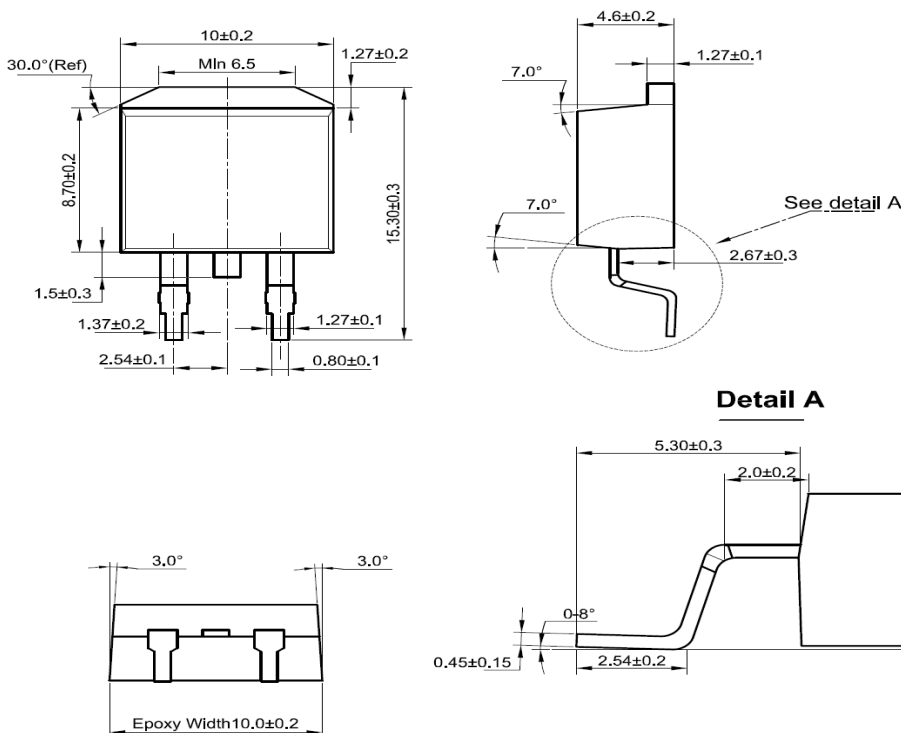
TO-220-AB



ITO-220-AB



TO-263



Detail A