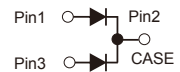
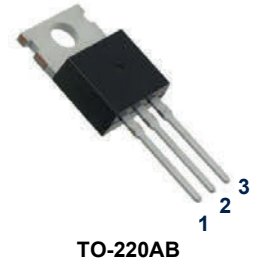


Features

- Power pack
- Metal silicon junction, majority carrier conduction
- Guard ring for over voltage protection
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder bath temperature 275°C maximum, 10s, per JESD22-B106
- Component in accordance to RoHS 2015/863/EU



Schematic Diagram

Mechanical Data

- Case: JEDEC TO-220AB
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting torque: 10 in-lbs maximum

Applications

For use in low voltage, high frequency inverters, DC/DC converters, free wheeling, and polarity protection applications

Maximum Ratings (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	V
Maximum Average Forward Rectified Current (See Fig.1)	Per Leg	10.0	A
	Total Device	20.0	
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method at Rated T_L)	I_{FSM}	200	A
Peak Repetitive Reverse Current Per Diode at $t_p=2\mu s$ 1KHz	I_{RRM}	0.5	A
Typical Thermal Resistance, Junction to Case, Total Device	$R_{\theta JC}$	1.3	°C/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +175	°C

Electrical Characteristics (Per leg, $T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Typ.	Max.	Unit	
Instantaneous Forward Voltage ¹	V_F	Per Leg $I_F=10.0A$	$T_A=25^\circ C$	0.86	0.95	V
			$T_A=100^\circ C$	0.76	-	
			$T_A=125^\circ C$	0.72	-	
		Per Leg $I_F=5.0A$	$T_A=25^\circ C$	0.78	0.85	
			$T_A=100^\circ C$	0.67	-	
			$T_A=125^\circ C$	0.63	-	
Reverse Current ²	I_R	$V_R=200V$	$T_A=25^\circ C$	1	5	μA
			$T_A=100^\circ C$	-	1	mA
			$T_A=125^\circ C$	-	3	
Typical Junction Capacitance	C_J	4V, 1MHz	137		pF	

Notes:

1. Pulse test: 300 μs pulse width, 1% duty cycle.
2. Pulse test: pulse width $\leq 40ms$.

Ratings and Characteristics Curves

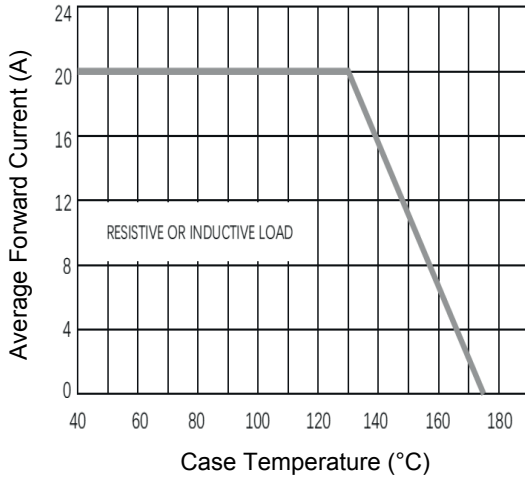


Figure 1. Forward Current Derating Curve

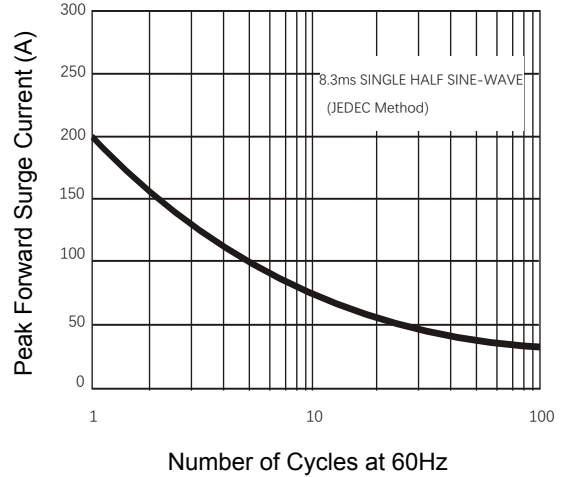


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

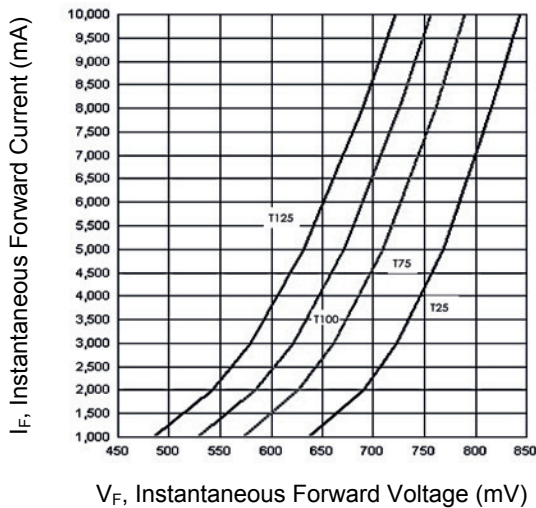


Figure 3. Typical Instantaneous Forward Characteristics

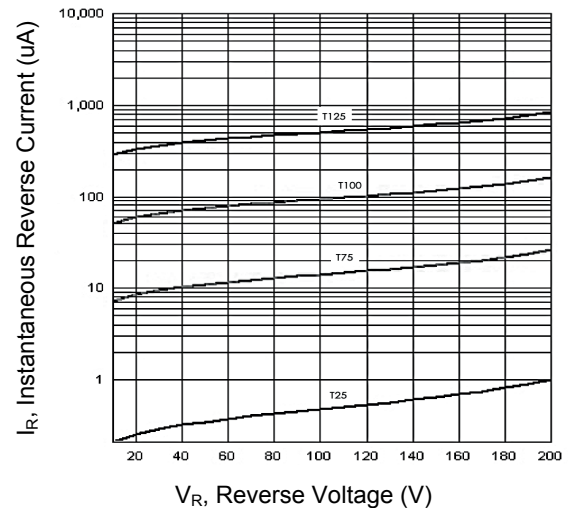


Figure 4. Typical Reverse Characteristics

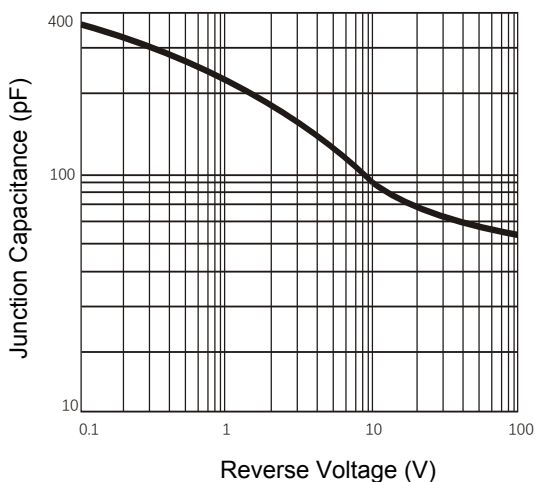
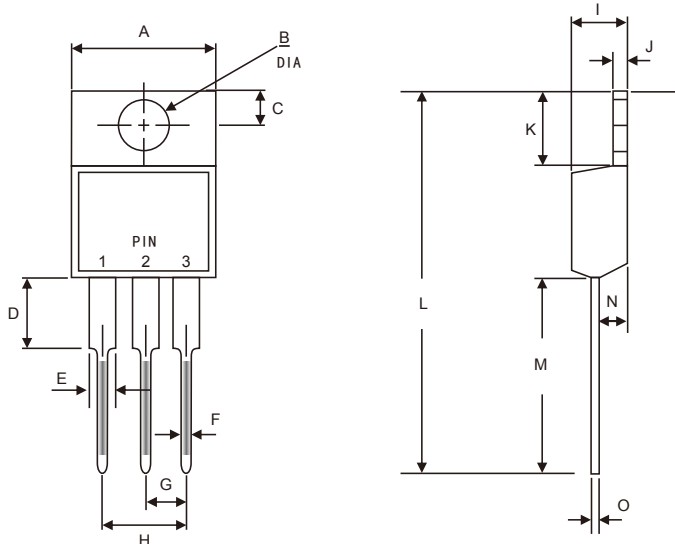


Figure 5. Typical Junction Capacitance

Package Outline Dimensions (TO-220AB)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	9.91	10.41	0.390	0.410
B	3.74	4.10	0.147	0.161
C	2.60	2.90	0.102	0.114
D	3.50	4.05	0.138	0.159
E	1.20	1.34	0.047	0.053
F	0.68	0.94	0.027	0.037
G	2.41	2.67	0.095	0.105
H	4.88	5.28	0.192	0.208
I	4.44	4.70	0.175	0.185
J	1.14	1.39	0.045	0.055
K	6.20	7.20	0.244	0.283
L	28.10	29.50	1.106	1.161
M	13.10	14.22	0.516	0.560
N	2.50	2.90	0.098	0.114
O	0.35	0.58	0.014	0.023

Order Information

Device	Package	Marking	Carrier	Quantity
GSR2020CT	TO-220AB	SR2020CT	Tube	50pcs / Tube