TAIWAN SEMICONDUCTOR

The Smartest Choice

SR2020 - SR20150

20.0AMPS. Schottky Barrier Rectifiers

TO-220AB

Features

- ✧ Low power loss, high efficiency.
- ✧ High current capability, low VF.
- ✧ High reliabbility
- ✧ High surge current capability.
- ✧ Epitaxial construction.
- ✧ Guard-ring for transient protection.
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.



AEC-Q101 Qualified

Pb-Free

RoHS COMPLIANT

Mechanical Data

- ✧ Cases: TO-220AB molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering guaranteed: 260°C/10 seconds .25",(6.35mm) from case.
- ✧ Mounting torque: 5 in - lbs. max.
- ✧ Weight: 1.82 grams

Ordering Information(example)

Part No.	Package	Packing	Packing code	Packing code (Green)
SR2020	TO-220AB	50 / TUBE	C0	C0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	SR 2020	SR 2030	SR 2040	SR 2050	SR 2060	SR 2090	SR 20100	SR 20150	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	90	100	150	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	63	70	105	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	90	100	150	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	20								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	200								A
Maximum Instantaneous Forward Voltage (Note 1) @ 10A	V_F	0.55			0.70		0.90		1.00	V
Maximum DC Reverse Current @ T_A=25 ℃	I_R	0.5					0.1			mA
at Rated DC Blocking Voltage @ T_A=100°C		15			10		-			mA
@ T_A=125°C		-					5.0			mA
Typical Junction Capacitance (Note 2)	Cj	430			360					pF
Typical Thermal Resistance	$R_{\theta JC}$	1.0								°C/W
Operating Junction Temperature Range	T_J	- 55 to + 125			- 55 to + 150					°C
Storage Temperature Range	T_{STG}	- 55 to + 150								°C

Note 1 : Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2 : Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

TAIWAN SEMICONDUCTOR
The Smartest Choice

RATINGS AND CHARACTERISTIC CURVES (SR2020 THRU SR20150)

FIG. 1- FORWARD CURRENT DERATING CURVE

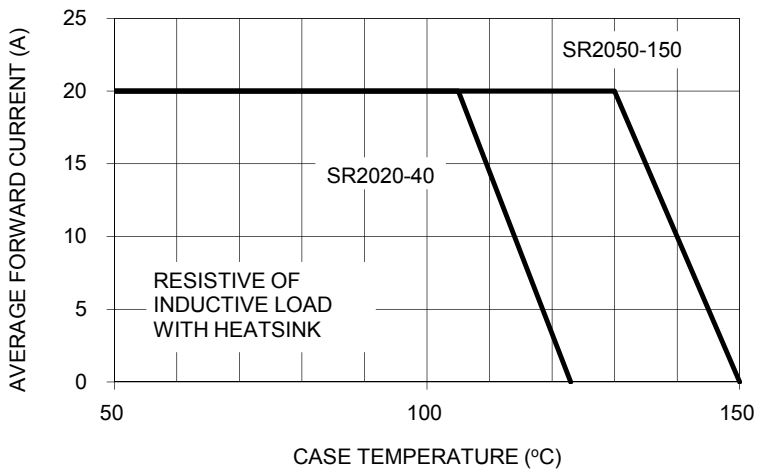


FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

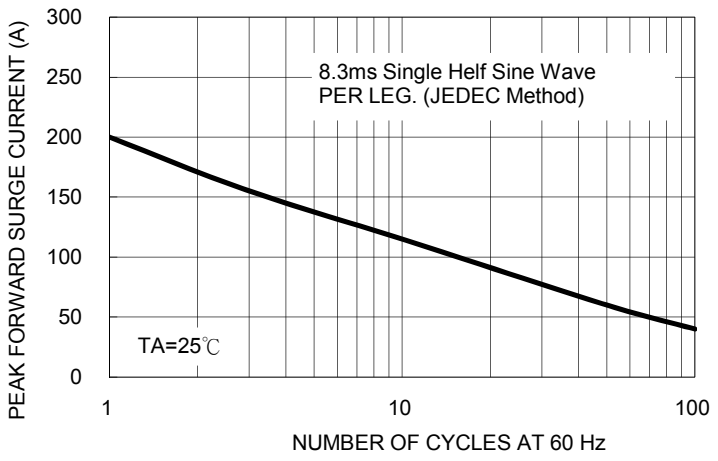


FIG. 3- TYPICAL FORWARD CHARACTERISTICS PER LEG

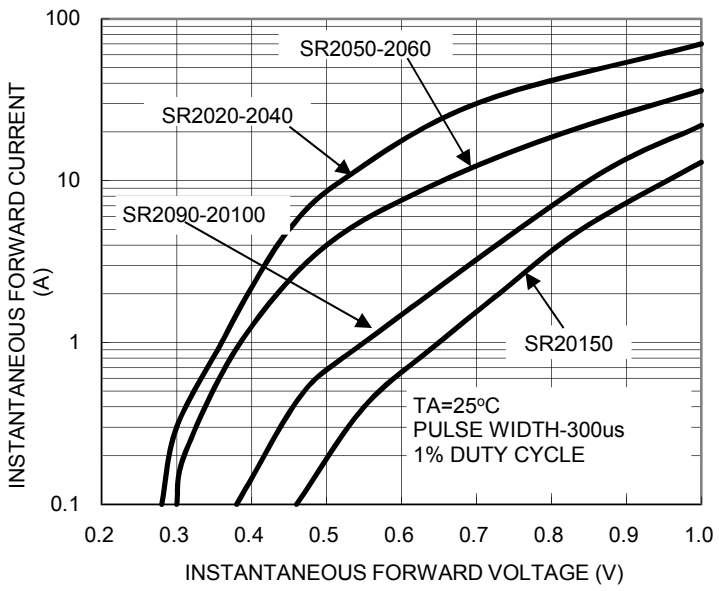


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

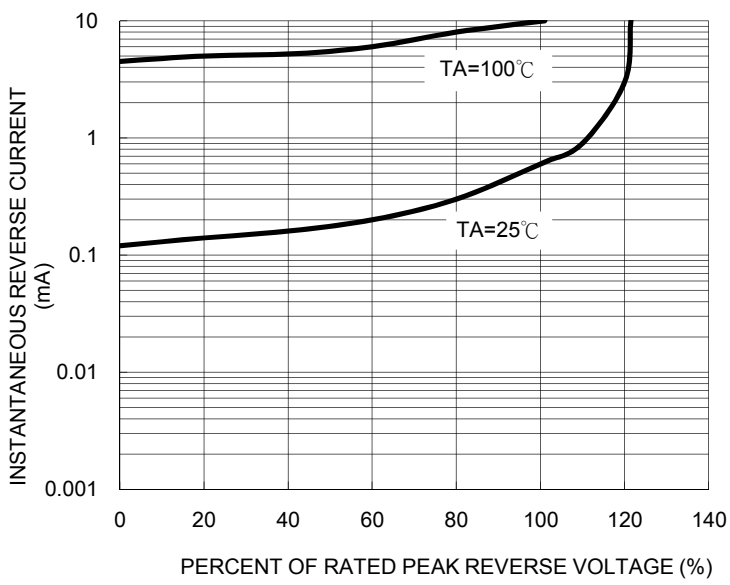


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

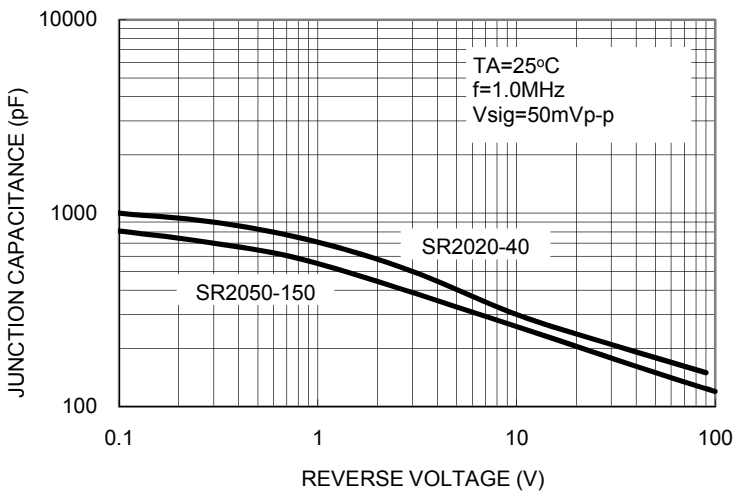
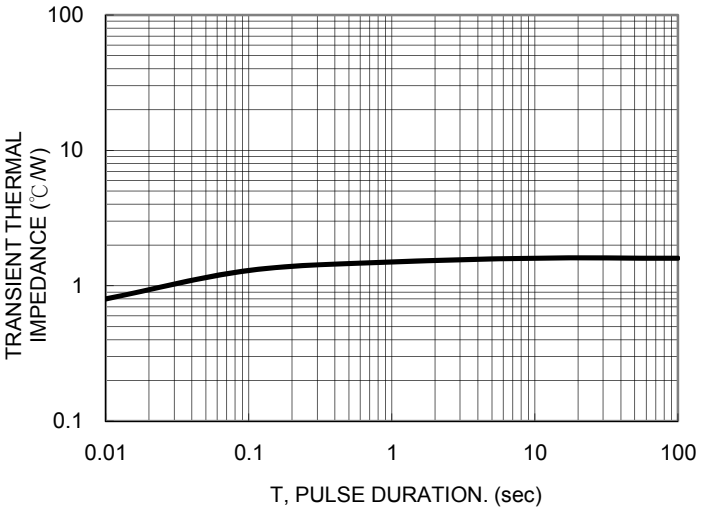


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



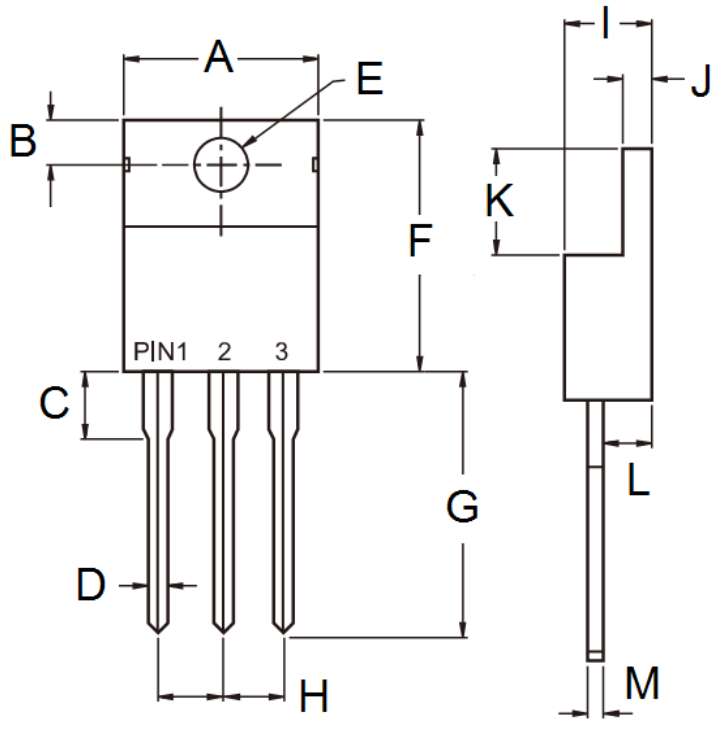
Version:H13

Ordering information

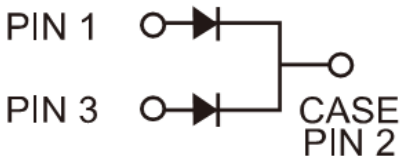
Part No.	Package	BULK Packing	Packing code	Packing code (Green)
SR20xx	TO-220AB	50 / TUBE	C0	C0G

Note: "xx" is Device Code from "20" thru "150".

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.62	3.44	0.103	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	13.19	14.79	0.519	0.582
H	2.41	2.67	0.095	0.105
I	4.42	4.76	0.174	0.187
J	1.14	1.40	0.045	0.055
K	5.84	6.86	0.230	0.270
L	2.20	2.80	0.087	0.110
M	0.35	0.64	0.014	0.025



Marking Diagram



P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code