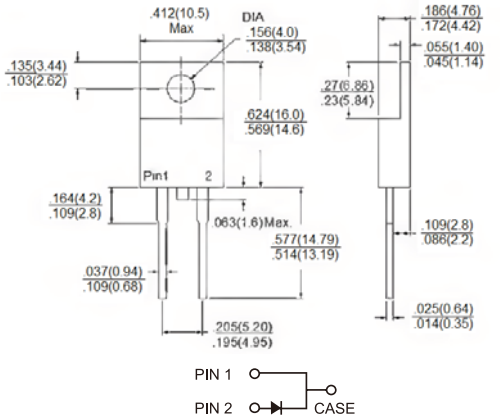
TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

SRA2020 - SRA20100

20.0 AMPS. Schottky Barrier Rectifiers

TO-220AC



Dimensions in inches and (millimeters)

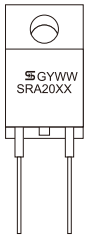
Features

- ✧ UL Recognized File # E-326243
- ✧ Low power loss, high efficiency.
- ✧ High current capability, Low VF.
- ✧ High reliability
- ✧ High surge current capability.
- ✧ Epitaxial construction.
- ✧ Guard-ring for transient protection.
- ✧ For use in low voltage, high frequency inventor, free wheeling, and polarity protection application
- ✧ Green compound with suffix “G” on packing code & prefix “G” on datecode.

Mechanical Data

- ✧ Cases: TO-220AC molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, lead free. solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering guaranteed: 260°C/10 seconds.25”,(6.35mm) from case.
- ✧ Weight: 1.90 grams

Marking Diagram



SRA20XX = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Type Number	Symbol	SRA 2020	SRA 2030	SRA 2040	SRA 2050	SRA 2060	SRA 2090	SRA 20100	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	90	100	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	63	70	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	90	100	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{F(AV)}$	20							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	300							A
Maximum Instantaneous Forward Voltage @20A	V_F	0.55			0.70		0.92		V
Maximum D.C. Reverse @ T_A=25 °C	I_R	0.5					0.1		mA
Current at Rated DC @ T_A=100 °C		15			10		–		mA
Blocking Voltage (Note1) @ T_A=125 °C		–					5.0		mA
Typical Thermal Resistance(Note2)	$R_{\theta JC}$	1.5							°C/W
Operating Junction Temperature Range	T_J	-65 to +125			-65 to +150				°C
Operating Temperature Range - In DC forward mode	T_J	≦200							°C
Storage Temperature Range	T_{STG}	-65 to +150							°C

Notes: 1. Pulse Test: 300us Pulse Width, 1% Duty Cycle
2. Mounted on Heatsink Size of 2” x 3“ x 0.25” Al-Plate.

Version: F10

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RATINGS AND CHARACTERISTIC CURVES (SRA2020 THRU SRA20100)

FIG.1 FORWARD CURRENT DERATING CURVE

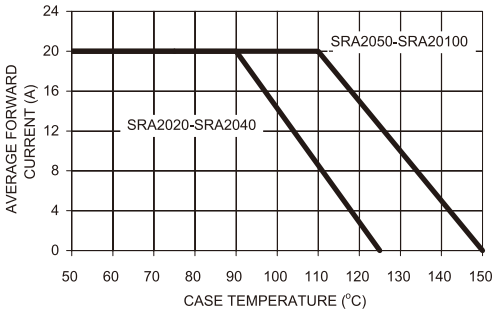


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

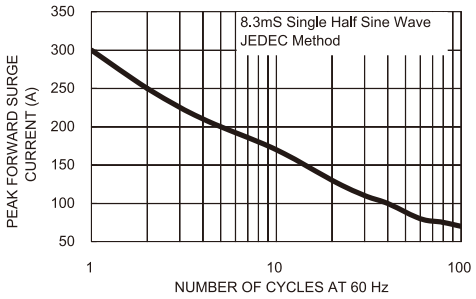


FIG. 3 TYPICAL FORWARD CHARACTERISRICS

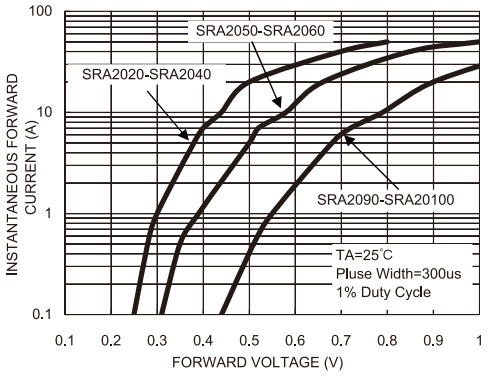


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

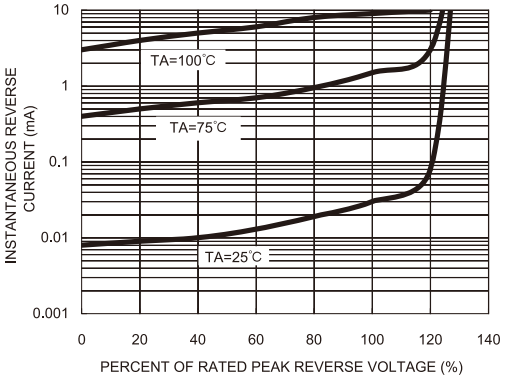


FIG. 5 TYPICAL JUNCTION CAPACITANCE

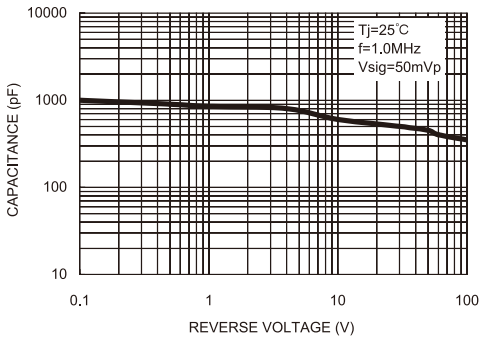
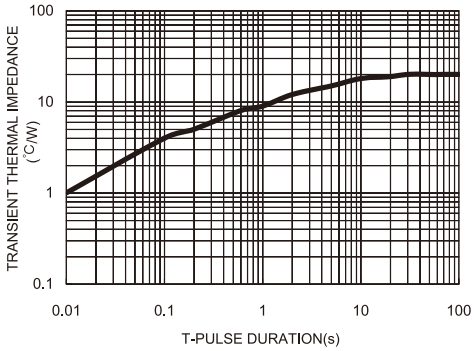


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE



Version: F10