TAIWAN SEMICONDUCTOR

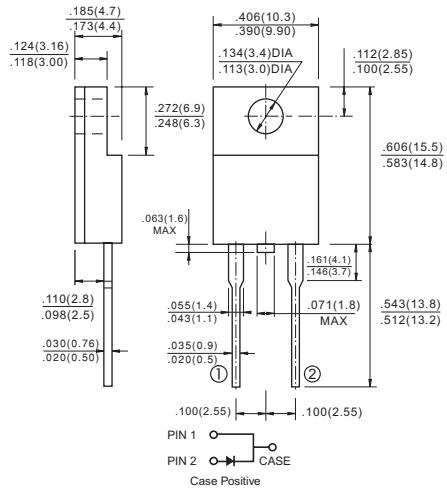
SRAF1020 - SRAF10150

Isolated 10.0 AMPS. Schottky Barrier Rectifiers

ITO-220AC

RoHS COMPLIANCE





Dimensions in inches and (millimeters)

Features

- ✧ Isolated Plastic package.
- ✧ 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

Mechanical Data

- ✧ Cases: ITO-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: 2.24 grams
- ✧ Mounting torque: 5 in – 1bs. max.

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	SRAF 1020	SRAF 1030	SRAF 1040	SRAF 1050	SRAF 1060	SRAF 1090	SRAF 10100	SRAF 10150	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 @Tc=110 °C	$I_{(AV)}$	10.0								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 10.0A	V_F	0.55			0.70		0.85		0.95	V
Maximum D.C. Reverse Current @ Tc=25 °C	I_R	0.5					0.1			mA
at Rated DC Blocking Voltage @ Tc=100 °C		15			10		5.0			mA
Typical Junction Capacitance (Note 2)	Cj	420			280		165			pF
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	4.0								°C/W
Operating Junction Temperature Range	T_J	-65 to +125				-65 to +150				°C
Storage Temperature Range	TSTG	-65 to +150								°C

Notes: 1. Thermal Resistance from Junction to Case Per Leg
2. Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C.
3. Mounted on Heatsink Size of 2" x 3" x 0.25" Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (SRAF1020 THRU SRAF10150)

FIG.1- FORWARD CURRENT DERATING CURVE

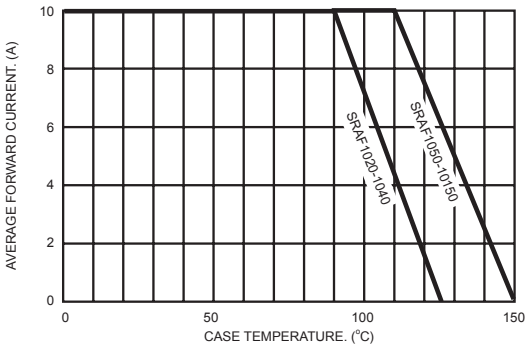


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

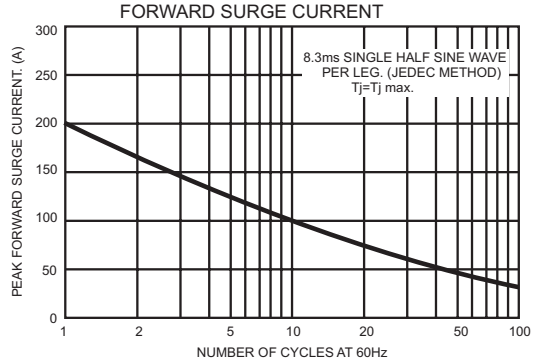


FIG.3- TYPICAL FORWARD CHARACTERISTICS

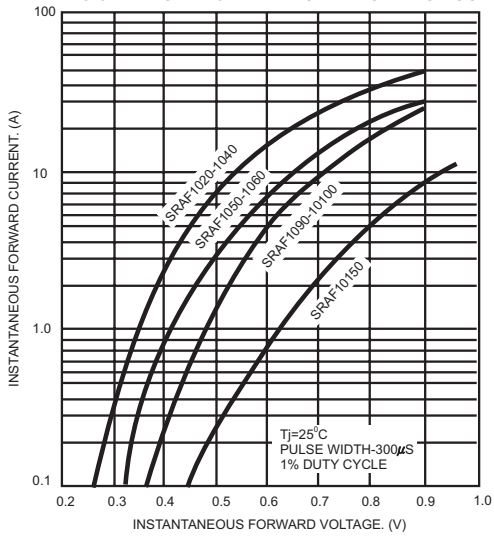


FIG.4- TYPICAL REVERSE CHARACTERISTICS

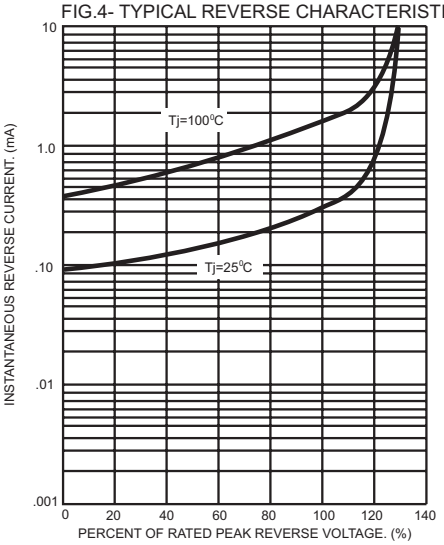


FIG.5- TYPICAL JUNCTION CAPACITANCE

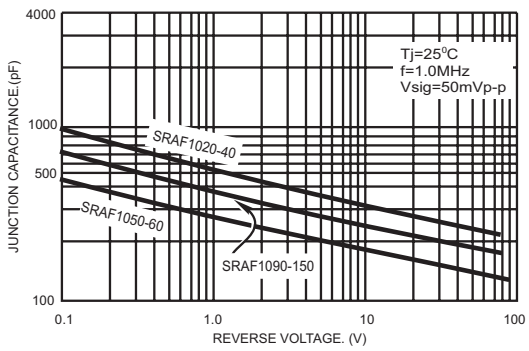


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

