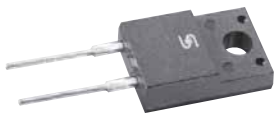
TAIWAN SEMICONDUCTOR

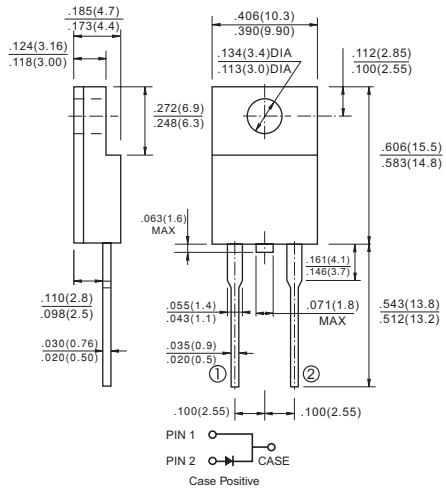
RoHS COMPLIANCE

SRAF820 - SRAF8150

Isolated 8.0 AMPS. Schottky Barrier Rectifiers

ITO-220AC





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

Maximum Ratings and Electrical Characteristics

Rating at 25°Cambient 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 820	SRAF 830	SRAF 840	SRAF 850	SRAF 860	SRAF 890	SRAF 8100	SRAF 8150	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 See Fig. 1	$I_{(AV)}$	8.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150								A
Maximum Instantaneous Forward Voltage @8.0A	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	430			360					pF
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	5.0								°C/W
Operating Junction Temperature Range	T_J	-65 to +125			-65 to +150					°C
Storage Temperature Range	T_{STG}	-65 to +150								°C

Notes: 1. Thermal Resistance from Junction to Case Per Leg with Heat sink (2"x3"x0.25") Al-Plate.
2. Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (SRAF820 THRU SRAF8150)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

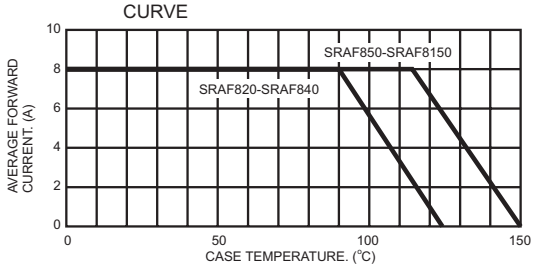


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

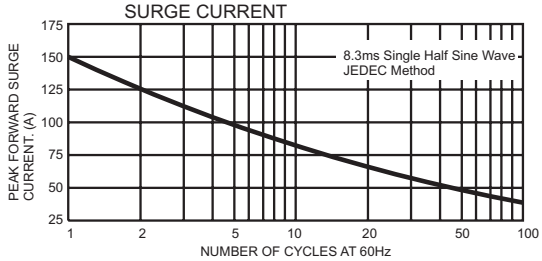


FIG.3- TYPICAL FORWARD CHARACTERISTICS

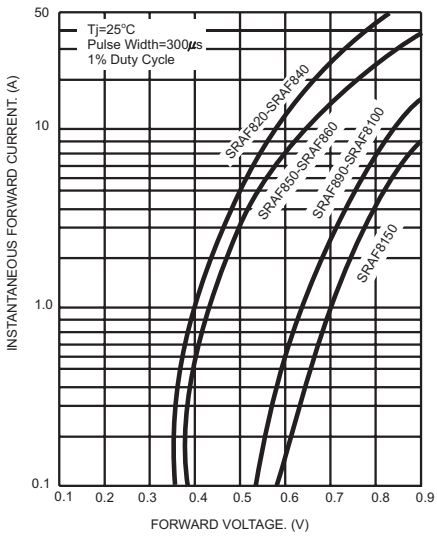


FIG.4- TYPICAL REVERSE CHARACTERISTICS

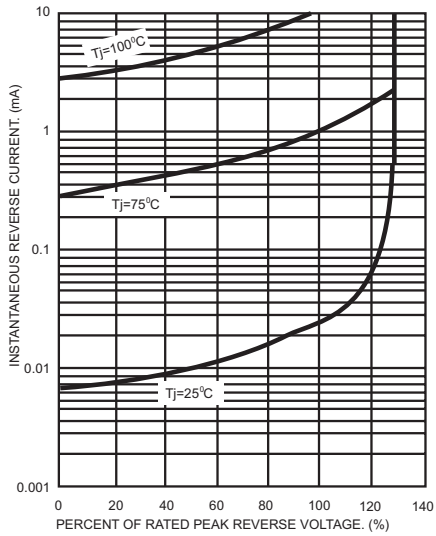


FIG.5- TYPICAL JUNCTION CAPACITANCE

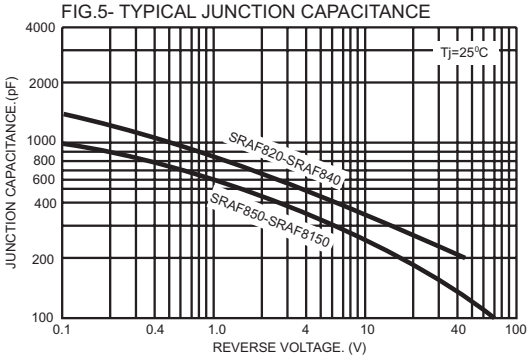


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS