

## Switchmode

### Full Plastic Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 150 °C junction temperature. Typical application are in switching Mode Power Supplies such as adaptators, DC/DC converters, free-wheeling and polarity protection diodes.

#### Features

- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 150 °C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory

#### Mechanical Data

- \* Case : JEDEC ITO-220AC molded plastic body
- \* Terminals: Plated lead, solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting Torque: 4-6kg.cm
- \* Weight: 1.7 g approx.

Plating pb free is indicated by box

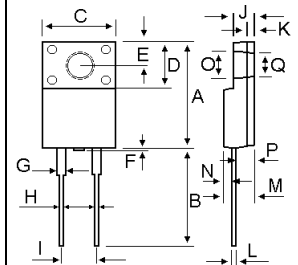


### SCHOTTKY BARRIER RECTIFIERS

**20 AMPERES  
100 VOLTS**



ITO-220AC



DIM	MILLIMETERS	
	MIN	MAX
A	15.05	15.15
B	13.35	13.45
C	10.00	10.10
D	6.55	6.65
E	2.65	2.75
F		1.00
G	1.15	1.25
H	0.55	0.65
I	4.80	5.20
J	3.00	3.20
K	1.10	1.20
L	0.55	0.65
M	4.40	4.60
N	1.15	1.25
P	2.65	2.75
O	3.35	3.45
Q	3.15	3.25

## MAXIMUM RATINGS

Characteristic	Symbol	SRAF20100	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Rectifier Forward Current Total Device (Rated $V_R$ , $T_C=100$ )	$I_{F(AV)}$	20	A
Peak Repetitive Forward Current (Rate $V_R$ , Square Wave, 20kHz)	$I_{FM}$	20	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	$I_{FSM}$	250	A
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +150	

## THERMAL RESISTANCES

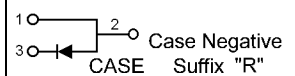
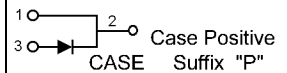
Typical Thermal Resistance junction to case	$R_{\theta jc}$	2.7	/w
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To evaluation the conduction losses use the following equation:

$$T_J = T_C + P \times R_{\theta jc}, \quad P = 0.58 \times I_{F(AV)} + 0.01 \times I_{F(RMS)}^2$$

## ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	SRAF20100	Unit
Maximum Instantaneous Forward Voltage ( $I_F = 20$ Amp $T_C = 25$ )	$V_F$	0.85	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25$ ) (Rated DC Voltage, $T_C = 125$ )	$I_R$	0.2 20	mA



# SRAF20100

FIG-1 FORWARD CURRENT DERATING CURVE

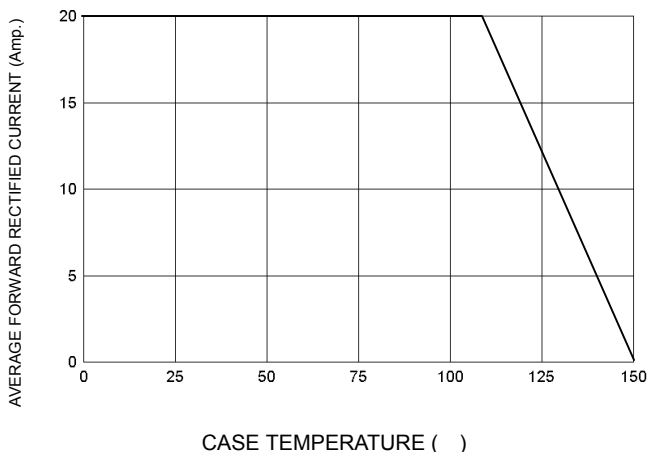


FIG-2 TYPICAL FORWARD CHARACTERISTICS

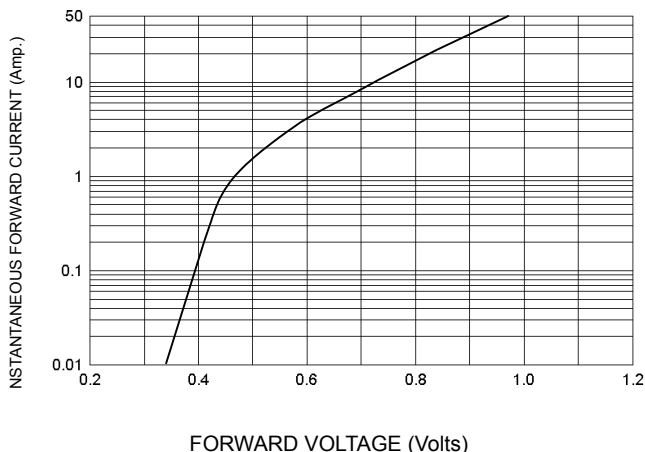


FIG-3 TYPICAL REVERSE CHARACTERISTICS

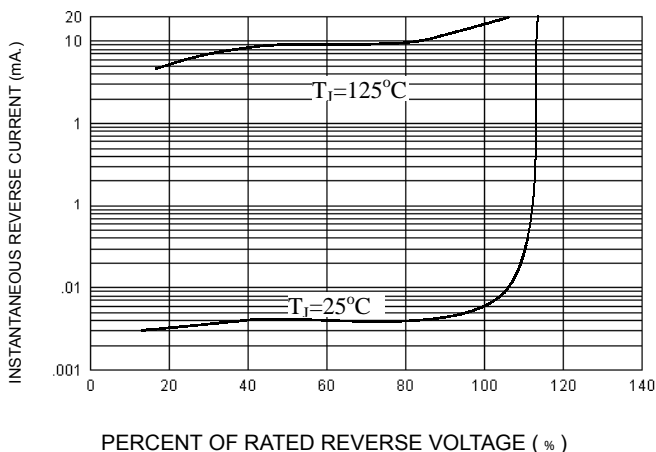


FIG-4 TYPICAL JUNCTION CAPACITANCE

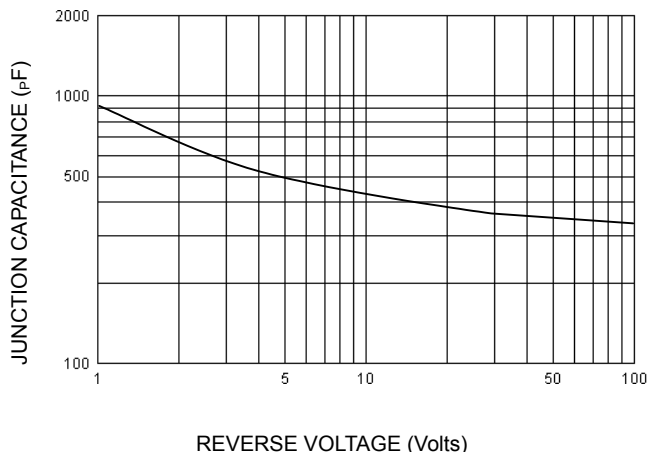


FIG-5 PEAK FORWARD SURGE CURRENT

