



# SR1020 - SR10150

## 10.0 AMPS. Schottky Barrier Rectifiers

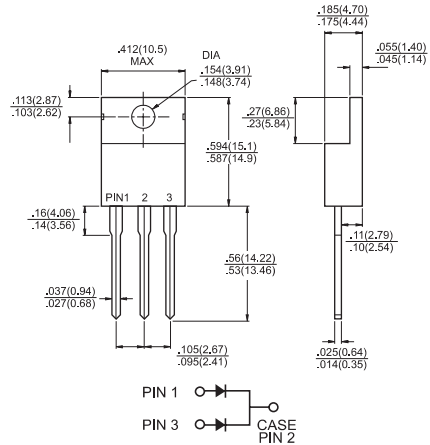
### TO-220AB

## Features

- ✧ 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 inverter, free wheeling, and polarity protection application

## Mechanical Data

- ✧ Cases: TO-220AB 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



Dimensions in inches and (millimeters)

## 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	SR 1020	SR 1030	SR 1040	SR 1050	SR 1060	SR 1090	SR 10100	SR 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 See Fig. 1	$I_{(AV)}$	10.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	120								A
Maximum Instantaneous Forward Voltage @5.0A	$V_F$	0.55		0.70		0.85		0.95		V
Maximum D.C. Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_c=100^\circ\text{C}$	$I_R$	0.5				0.1				mA
		15		10		5.0				mA
Typical Junction Capacitance (Note 2)	$C_j$	310								pF
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	3.0								°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, Mounted on Heatsink size of 2" x 3" x 0.25" Al-Plate.

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

## RATINGS AND CHARACTERISTIC CURVES (SR1020 THRU SR10150)

FIG.1- FORWARD CURRENT DERATING CURVE

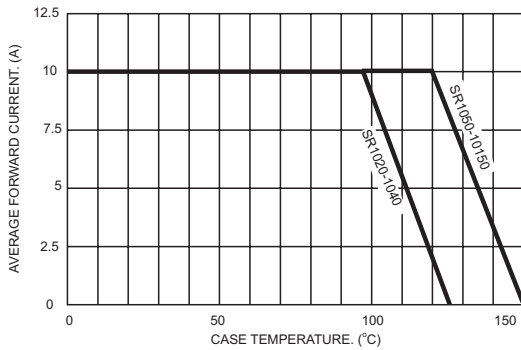


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

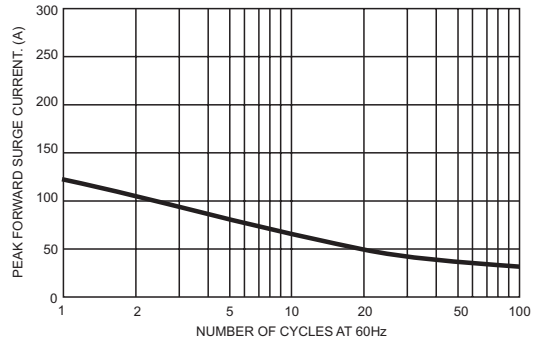


FIG.3- TYPICAL FORWARD CHARACTERISTICS PER LEG

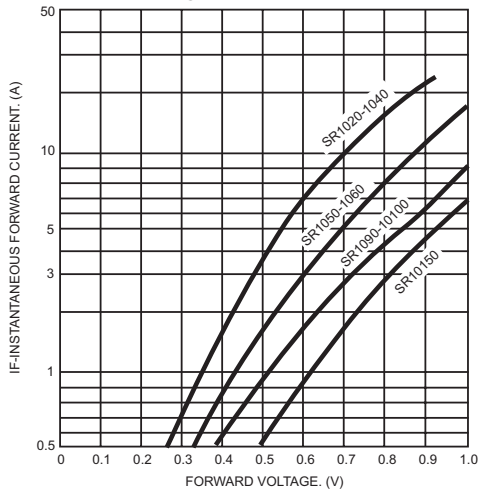


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

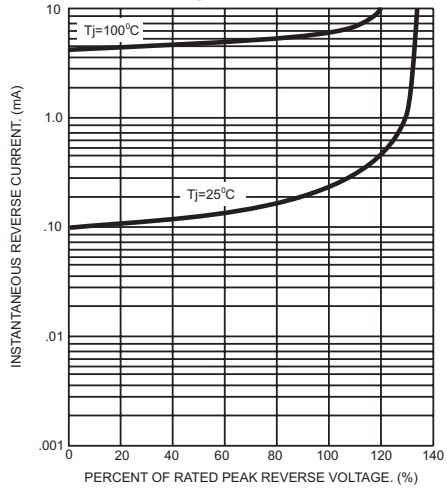


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

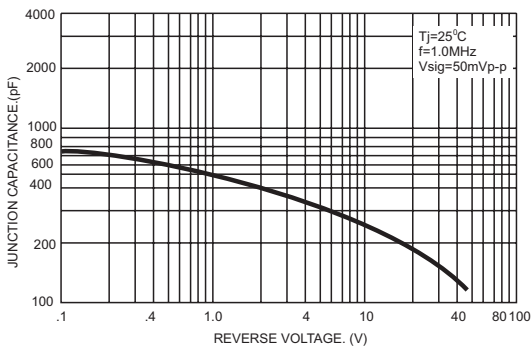


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

