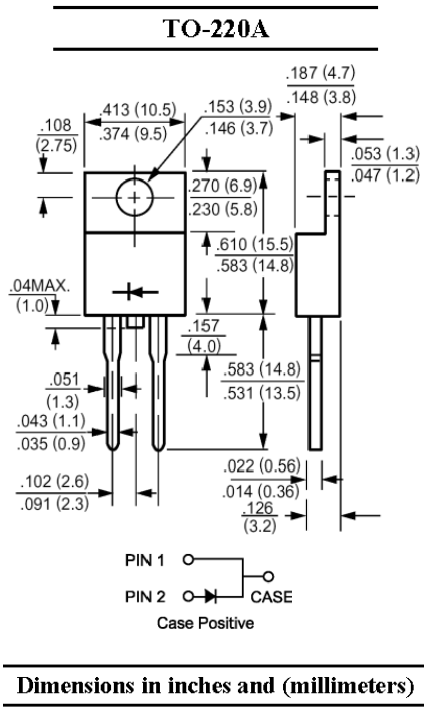
SR820 THRU SR860

SCHOTTKY BARRIER RECTIFIER
Reverse Voltage – 20 to 60 V
Forward Current – 8 A

Features

- High current capability, low V_F
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- Plastic package has UL flammability classification 94V-0
- Guard ring for transient protection
- High surge capacity
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications



Dimensions in inches and (millimeters)

Mechanical Data

Case: Molded plastic, TO-220A

Epoxy: UL 94V-0 rate flame retardant

Terminals: Leads solderable per MIL-STD-202, method 208 guaranteed

Polarity: As marked

Mounting Position: Any

Absolute Maximum Ratings and Characteristics

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

Parameter	Symbols	SR820	SR830	SR840	SR850	SR860	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	V
Maximum Average Forward Rectified Current	$I_{(AV)}$	8					A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150					A
Maximum Forward Voltage at 8 A DC and 25 °C	V_F	0.55			0.7		V
Maximum Reverse Current at T_C = 25 °C Rated DC Blocking Voltage T_C = 125 °C	I_R	0.5 50					mA
Typical Junction Capacitance [1]	C_J	700			460		pF
Typical Thermal Resistance [2]	$R_{\theta JC}$	3					°C/W
Operating Temperature Range	T_{opr}	- 55 to + 125			- 55 to + 150		°C
Storage Temperature Range	T_{stg}	- 55 to + 150					°C

[1] Measured at 1 MHz and applied reverse voltage of 4 V.

[2] Thermal Resistance from Junction to case per leg.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

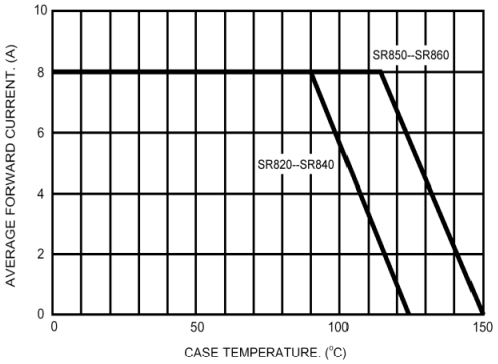

FIG.2- TYPICAL REVERSE CHARACTERISTICS

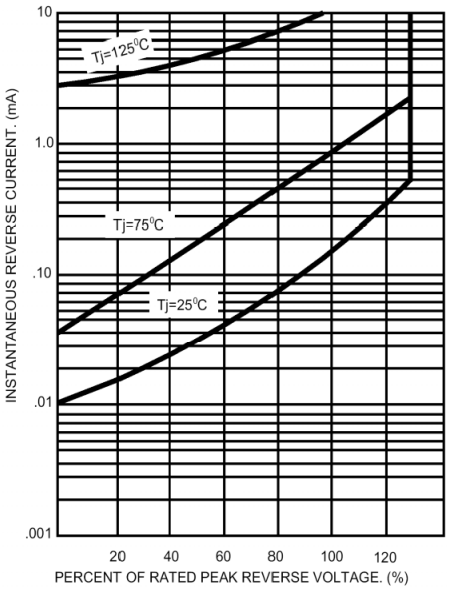

FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

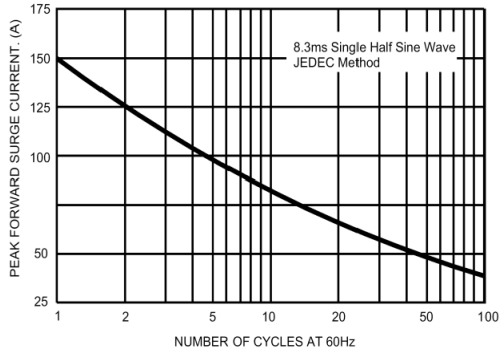

FIG.4- TYPICAL JUNCTION CAPACITANCE

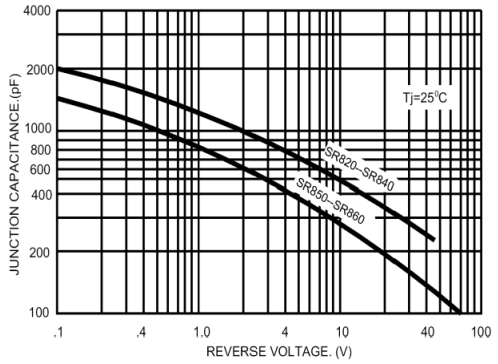

FIG.5- TYPICAL FORWARD CHARACTERISTICS