

# SR820R THRU SR860R

## 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

### Mechanical Data

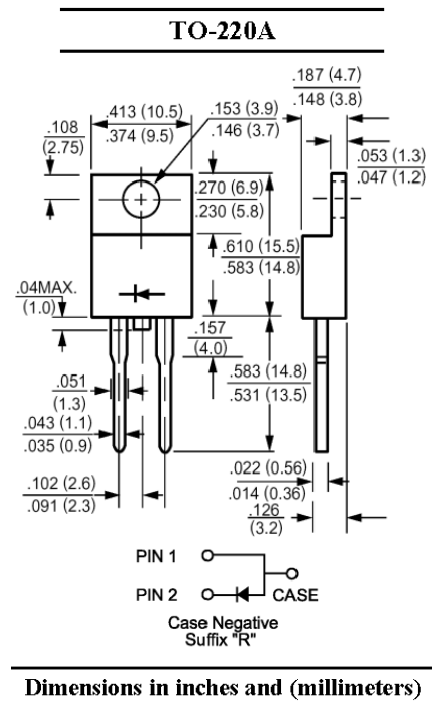
Case: Molded plastic, TO-220A

Epoxy: UL 94V-0 rate flame retardant

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

Polarity: As marked

Mounting Position: Any



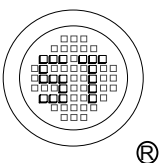
### Absolute Maximum Ratings and Characteristics

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	SR820R	SR830R	SR840R	SR850R	SR860R	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 Rated DC Blocking Voltage	$I_R$	0.5			50		mA
Typical Junction Capacitance <sup>1)</sup>	$C_J$	700			460		pF
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JC}$	3					°C/W
Operating Temperature Range	$T_{opr}$	- 55 to + 125			- 55 to + 150		°C
Storage Temperature Range	$T_{stg}$	- 55 to + 150					°C

<sup>1)</sup> Measured at 1 MHz and applied reverse voltage of 4 V.

<sup>2)</sup> Thermal Resistance from Junction to case per leg.



**SEMTECH ELECTRONICS LTD.**

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## RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

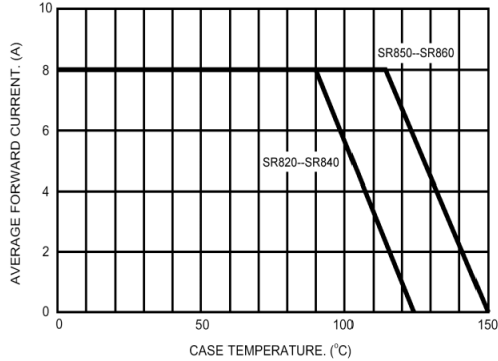


FIG.2- TYPICAL REVERSE CHARACTERISTICS

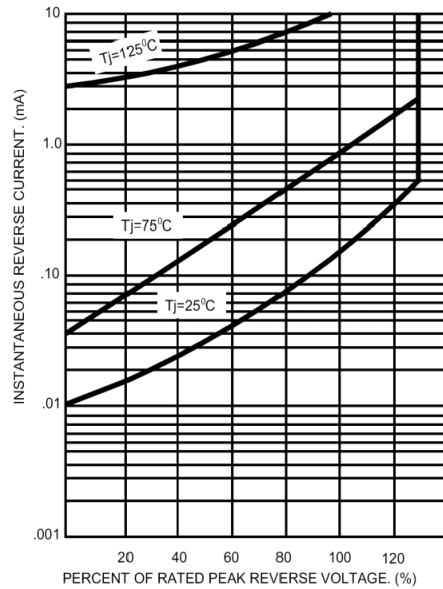


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

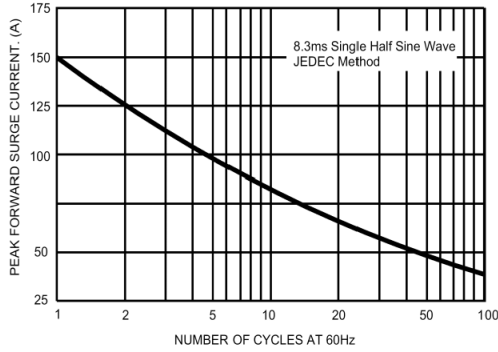


FIG.5- TYPICAL FORWARD CHARACTERISTICS

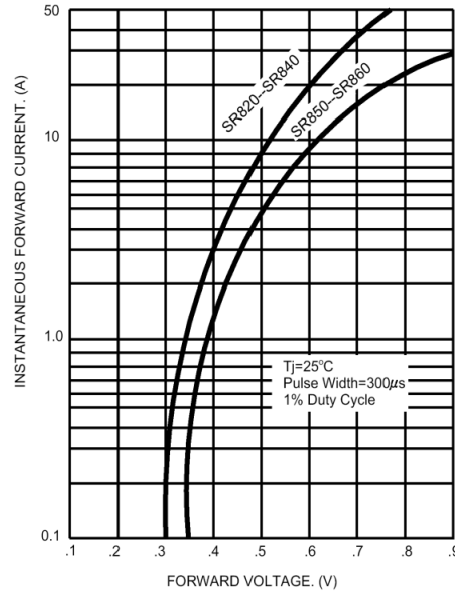
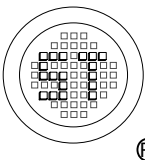
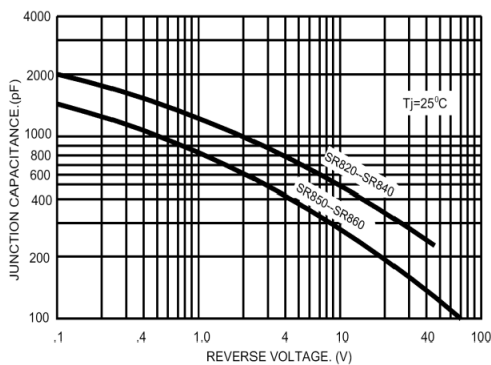


FIG.4- TYPICAL JUNCTION CAPACITANCE



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