

PFS

SCHOTTKY BARRIER RECTIFIER

SR820 THRU SR8100

VOLTAGE RANGE
CURRENT

20 to 100 Volts
8.0 Ampere

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Guardring for overvoltage protection
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed:
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

- Case : R-1 molded plastic body
- Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight : 0.007 ounce, 0.20 gramS

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

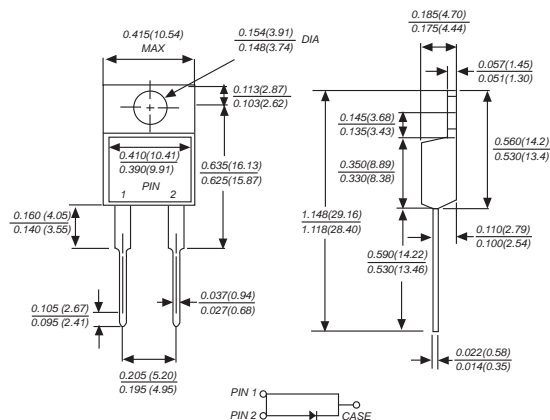
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| | SYMBOLS | SR 820 | SR 830 | SR 840 | SR 845 | SR 850 | SR 860 | SR 870 | SR 880 | SR 890 | SR 8100 | UNITS |
|-----------------------------------------------------------------------------------------------------|-----------------|-------------|--------|--------|--------|--------|-------------|--------|--------|--------|---------|-------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 45 | 50 | 60 | 70 | 80 | 90 | 100 | VOLTS |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 32 | 35 | 42 | 49 | 56 | 63 | 70 | VOLTS |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 45 | 50 | 60 | 70 | 80 | 90 | 100 | VOLTS |
| Maximum average forward rectified current (see fig.1) | $I_{(AV)}$ | 8.0 | | | | | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 150.0 | | | | | | | | | | Amps |
| Maximum instantaneous forward voltage at 8.0A | V_F | 0.65 | | | 0.75 | | | 0.85 | | | Volts | |
| Maximum DC reverse current at rated DC blocking voltage | I_R | 1.0 | | | | | 50.0 | | | | | mA |
| Typical junction capacitance (NOTE 1) | C_J | 300 | | | | | 250 | | | | | pF |
| Typical thermal resistance (NOTE 2) | $R_{\theta JC}$ | 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 |

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to case

TO-220AC



Dimensions in inches and (millimeters)

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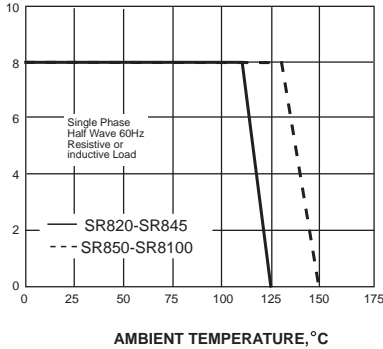
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AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

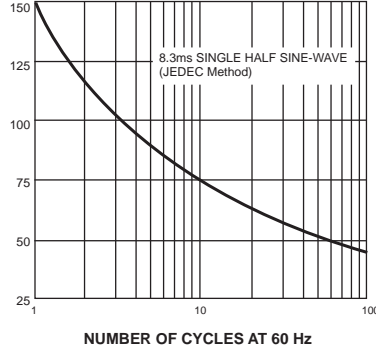
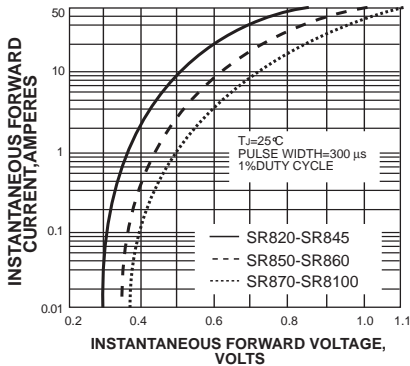


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

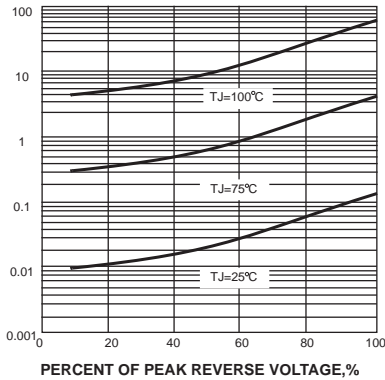
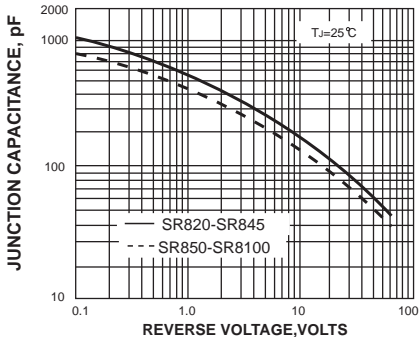


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

