

# SRS1020 - SRS10150

## 10.0 AMPS. Surface Mount Schottky Barrier Rectifiers

### D<sup>2</sup>PAK

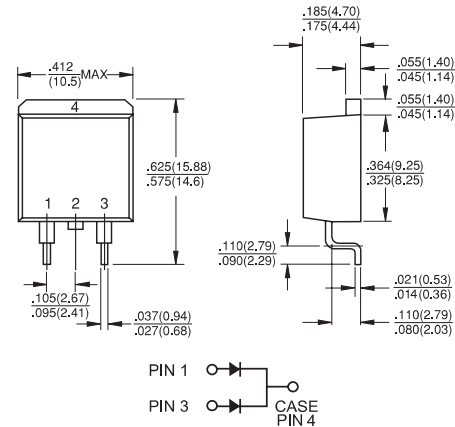


## Features

- ✧ For surface mounted application
- ✧ Ideal for automated pick & place
- ✧ Low power loss, high efficiency
- ✧ High current capability, low VF
- ✧ High reliability
- ✧ Epitaxial construction
- ✧ Guard-ring for transient protection

## Mechanical Data

- ✧ Cases: D<sup>2</sup>PAK molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, Leads solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering guaranteed: 260°C/10 seconds at terminals
- ✧ Weight: 1.70grams



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            | SRS<br>1020 | SRS<br>1030 | SRS<br>1040 | SRS<br>1050 | SRS<br>1060 | SRS<br>1090 | SRS<br>10100 | SRS<br>10150 | Units |
|-----------------------------------------------------------------------------------------------------|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                              | V <sub>RRM</sub>  | 20          | 30          | 40          | 50          | 60          | 90          | 100          | 150          | V     |
| Maximum RMS Voltage                                                                                 | V <sub>RMS</sub>  | 14          | 21          | 28          | 35          | 42          | 63          | 70           | 105          | V     |
| Maximum DC Blocking Voltage                                                                         | V <sub>DC</sub>   | 20          | 30          | 40          | 50          | 60          | 90          | 100          | 150          | V     |
| Maximum Average Forward Rectified Current See Fig. 1                                                | I <sub>(AV)</sub> | 10          |             |             |             |             |             |              |              | A     |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | I <sub>FSM</sub>  | 120         |             |             |             |             |             |              |              | A     |
| Maximum Instantaneous Forward voltage @5A                                                           | V <sub>F</sub>    | 0.55        |             |             | 0.70        |             | 0.90        |              | 1.00         | V     |
| Maximum D.C. Reverse Current @ Tc=25 °C<br>at Rated DC Blocking Voltage @ Tc=100 °C                 | I <sub>R</sub>    | 0.5         |             |             |             |             | 0.1         |              |              | mA    |
|                                                                                                     |                   | 15          |             |             | 10          |             | 5.0         |              | mA           |       |
| Typical Junction Capacitance (Note 2)                                                               | C <sub>j</sub>    | 400         |             |             |             |             |             |              |              | pF    |
| Typical Thermal Resistance (Note 1)                                                                 | R <sub>θJC</sub>  | 2.0         |             |             |             |             |             |              |              | °C/W  |
| Operating Junction Temperature Range                                                                | T <sub>J</sub>    | -65 to +125 |             |             |             | -65 to +150 |             |              |              | °C    |
| Storage Temperature Range                                                                           | T <sub>STG</sub>  | -65 to +150 |             |             |             |             |             |              |              | °C    |

Notes: 1. Thermal Resistance from Junction to Case Per Leg  
2. Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C.

## RATINGS AND CHARACTERISTIC CURVES (SRS1020 THRU SRS10150)

FIG.1- FORWARD CURRENT DERATING CURVE

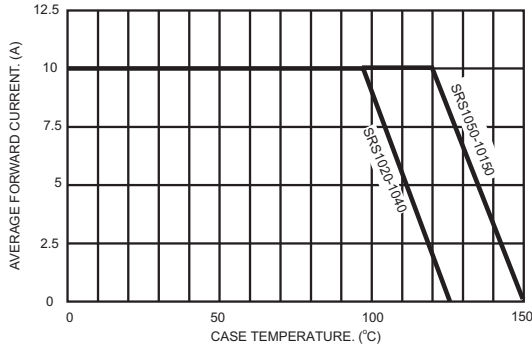


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

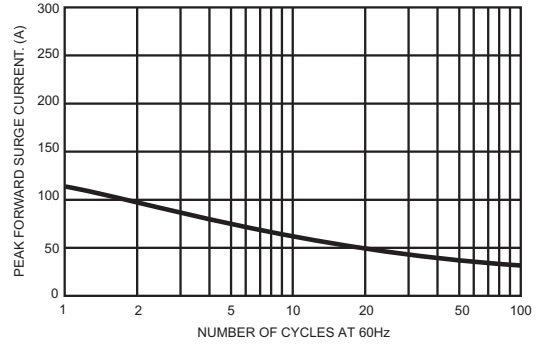


FIG.3- TYPICAL FORWARD CHARACTERISTICS PER LEG

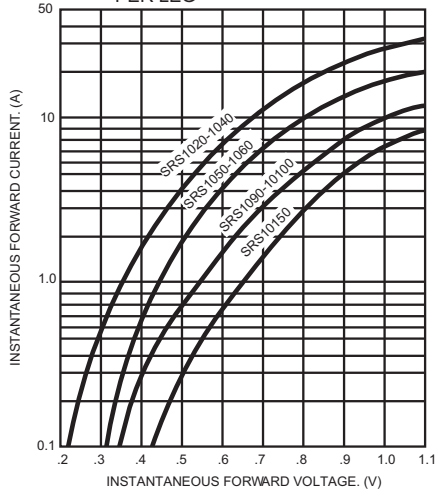


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

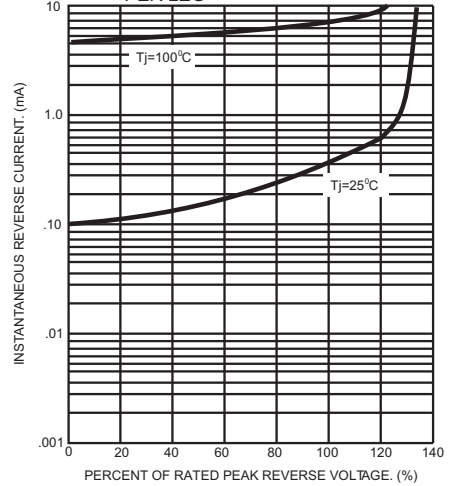


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

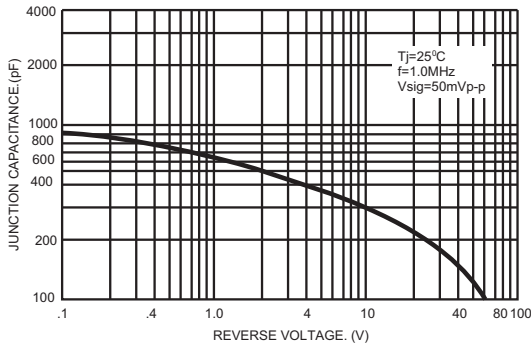


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

