

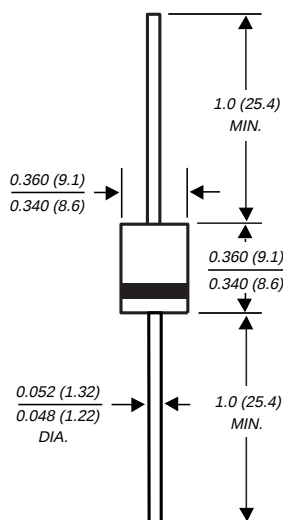
# SUF30G AND SUF30J

## ULTRAFAST EFFICIENT PLASTIC RECTIFIER

**Reverse Voltage** - 400 and 600 Volts

**Forward Current** - 3.0 Amperes

### Case Style P600



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated chip junction
- ◆ Ultrafast recovery times for high efficiency
- ◆ High forward surge current capability
- ◆ Low leakage current
- ◆ Low power loss
- ◆ High temperature soldering guaranteed: 260°C/10 seconds at 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



### MECHANICAL DATA

**Case:** Molded epoxy body over passivated chip

**Terminals:** Plated axial leads solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.07 ounces, 2.1 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|                                                                                                                             | SYMBOLS         | SUF30G        | SUF30J | UNITS              |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|--------|--------------------|
| Maximum repetitive peak reverse voltage                                                                                     | $V_{RRM}$       | 400           | 600    | Volts              |
| Maximum RMS voltage                                                                                                         | $V_{RMS}$       | 280           | 420    | Volts              |
| Maximum DC blocking voltage                                                                                                 | $V_{DC}$        | 400           | 600    | Volts              |
| Maximum average forward rectified current, 0.200" (5.0mm) lead length at $T_A=60^\circ\text{C}$                             | $I_{(AV)}$      | 3.0           |        | Amps               |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A=60^\circ\text{C}$ | $I_{FSM}$       | 80.0          |        | Amps               |
| Maximum instantaneous forward voltage at 3.0A                                                                               | $V_F$           | 1.80          | 2.0    | Volts              |
| Maximum peak reverse current $T_A=25^\circ\text{C}$<br>at rated peak reverse voltage $T_A=100^\circ\text{C}$                | $I_R$           | 10.0<br>100.0 |        | $\mu\text{A}$      |
| Maximum reverse recovery time (NOTE1)                                                                                       | $t_{rr}$        | 35.0          |        | ns                 |
| Typical junction capacitance (NOTE 2)                                                                                       | $C_J$           | 60            |        | pF                 |
| Typical thermal resistance (NOTE 3)                                                                                         | $R_{\theta JA}$ | 25.0          |        | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range                                                                            | $T_J, T_{STG}$  | -55 to +150   |        | $^\circ\text{C}$   |

#### NOTES:

(1) Reverse recovery test condition:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $t_{rr}=0.25\text{A}$

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(3) Thermal resistance from junction to ambient at 0.200" (5.0mm) lead length with both leads attached to heat sink

# RATINGS AND CHARACTERISTIC CURVES SUF30G AND SUF30J

FIG. 1 - FORWARD CURRENT DERATING CURVE

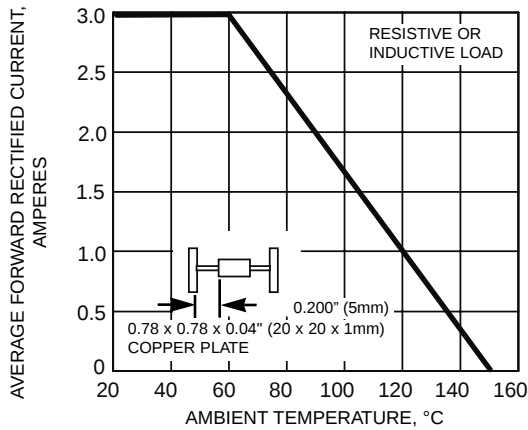


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

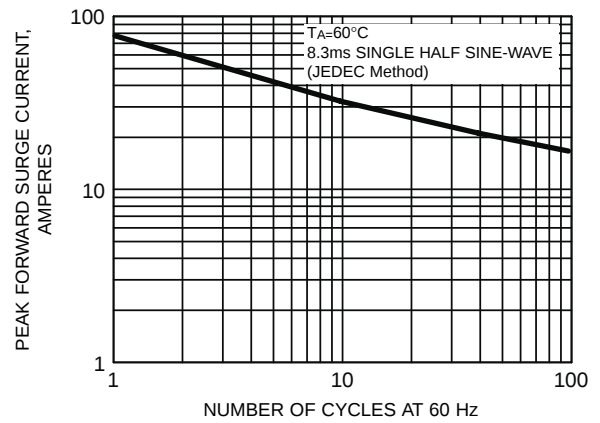


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

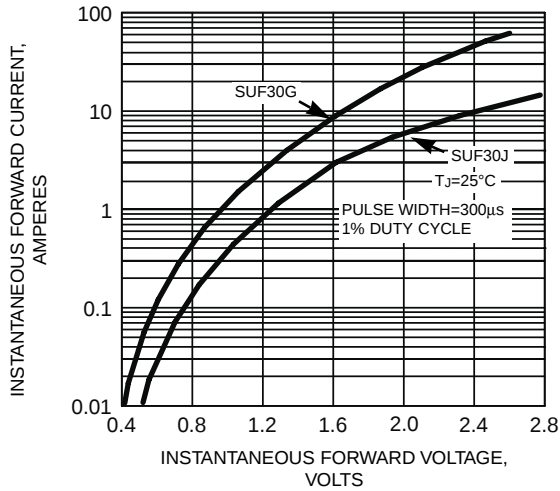


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

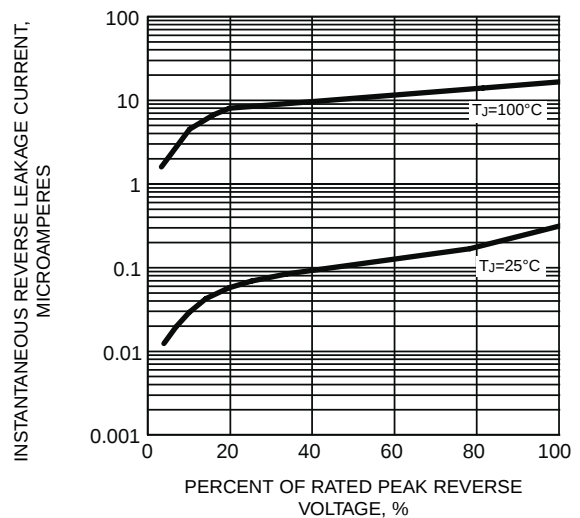


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

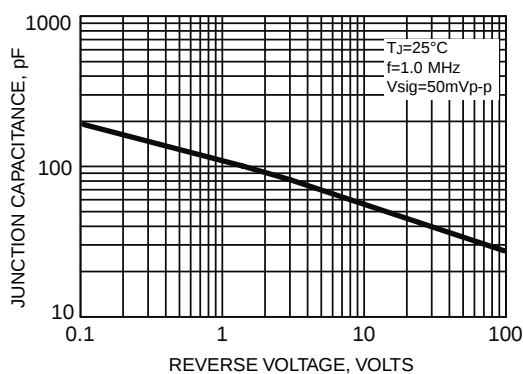


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

