# DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

# S3AF THRU S3MF

## TECHNICAL SPECIFICATIONS OF GENERAL PURPOSE SILICON RECTIFIER

*VOLTAGE RANGE - 50 to 1000 Volts* *CURRENT - 3.0 Amperes*

### FEATURES

* Ideal for surface mounted applications
* Glass passivated junction
* Low leakage current

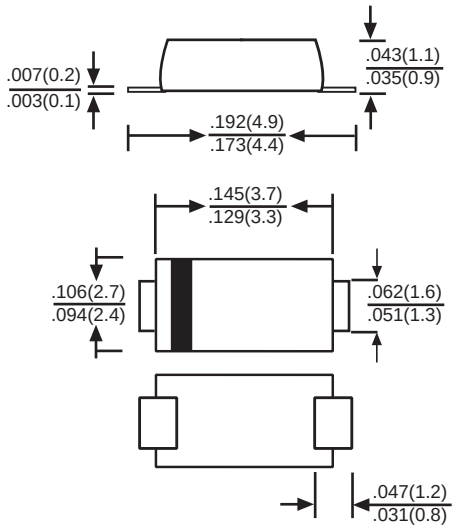
### MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rated flame retardant
* Lead: MIL-STD-202E, Method 208 guaranteed
* Polarity: Color band denotes cathode end
* Mounting position: Any
* Weight: 0.03 gram approx.

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, derate current by 20%.

SMAFL




Dimensions in inches and (millimeters)

| | SYMBOL | S3AF | S3BF | S3DF | S3GF | S3JF | S3KF | S3MF | UNITS |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current at $T_A$ = 65°C | $I_O$ | 3.0 | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 100 | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage at 3.0A DC | $V_F$ | 1.1 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A$=25°C | $I_R$ | 5.0 | | | | | | | μAmps |
| Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A$=100°C | $I_R$ | 250 | | | | | | | μAmps |
| Typical Junction Capacitance (Note 1) | $C_J$ | 53 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 50 | | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_J$,$T_{STG}$ | -55 to +150 | | | | | | | °C |

Note 1: Measured at 1 MHz and applied reverse voltage of 4.0 volts.
Note 2: Typical thermal resistance from junction to ambient.

# RATING AND CHARACTERISTIC CURVES (S3AF THRU S3MF)

FIG. 1
TYPICAL FORWARD CURRENT
DERATING CURVE

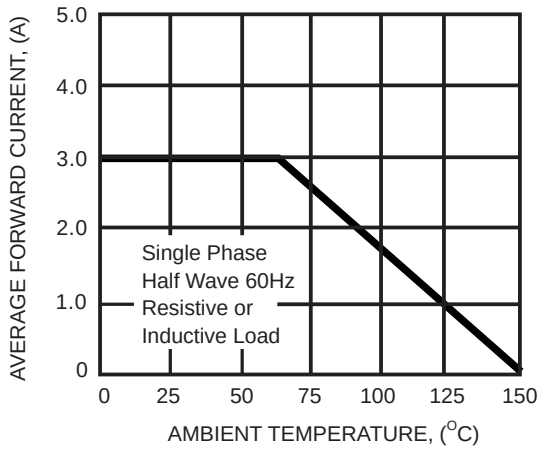



FIG. 2
MAXIMUM NON-REPETITIVE FORWARD
SURGE CURRENT

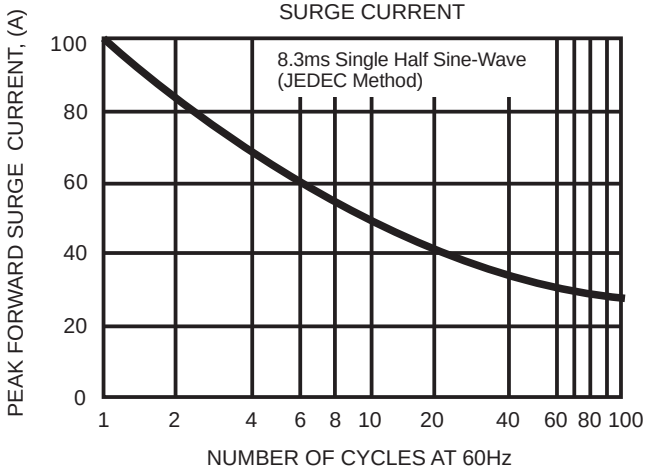



FIG. 3
TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

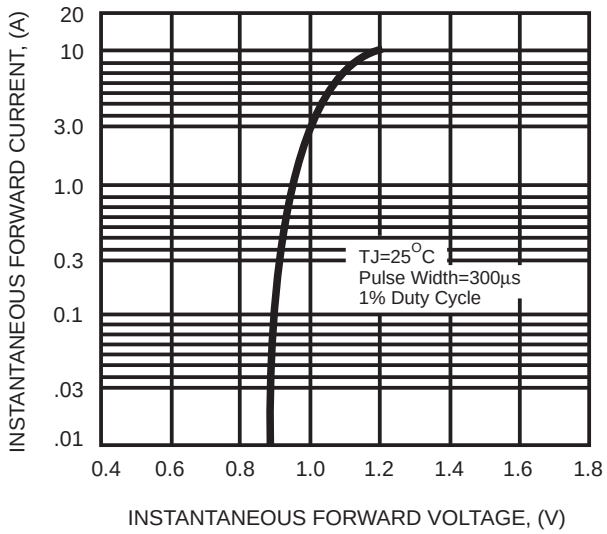



FIG. 4
TYPICAL REVERSE CHARACTERISTICS

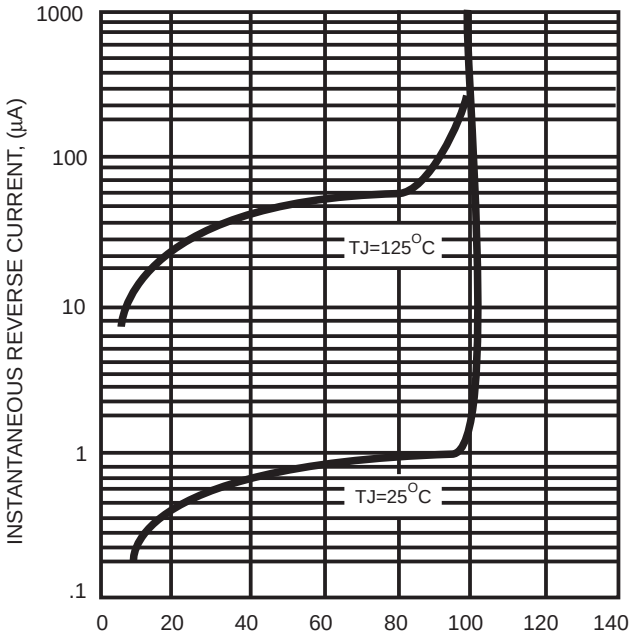
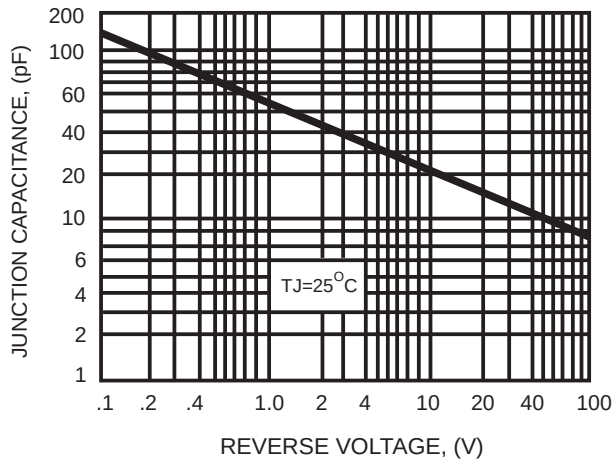



FIG. 5
TYPICAL JUNCTION CAPACITANCE



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