# SAMYANG ELECTRONICS

**SF21 --- SF28**

## SUPER FAST RECTIFIERS

**VOLTAGE RANGE: 50 --- 600 V**
**CURRENT: 2.0A**

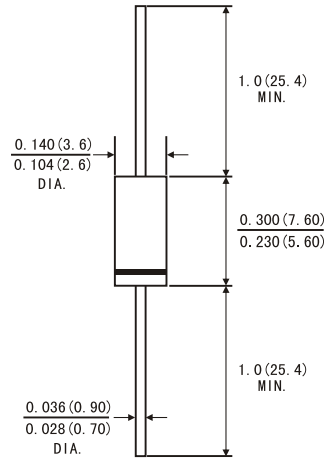
### FEATURES

- ◇Metal-semiconductor junction with guard ring
- ◇Epitaxial construction
- ◇Low forward voltage drop,low switching losses
- ◇High surge capability
- ◇For use in low voltage,high frequency inverters free wheeling,and polarity protection applications
- ◇The plastic material carries U/L recognition 94V-0

### MECHANICAL DATA

- ◇Case:JEDEC DO-15,molded plastic
- ◇Terminals: Axial lead ,solderable per MIL- STD-750,Method 2026
- ◇Polarity: Color band denotes cathode end
- ◇Weight: 0.014 ounces, 0.39 grams
- ◇Mounting position: Any

**DO-15**




Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

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

| | Symbols | SF 21 | SF 22 | SF 23 | SF 24 | SF 25 | SF 26 | SF 27 | SF 28 | Units |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | Volts |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | Volts |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | Volts |
| Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length@$T_A$=55°C | $I_{(AV)}$ | 2.0 | | | | | | | | Amps |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 50 | | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage at 2.0 A | $V_F$ | 0.95 | | | | 1.3 | | 1.7 | | Volts |
| Maximum DC Reverse Current At Rated DC Blocking Voltage $T_A$=25°C | $I_R$ | 5.0 | | | | | | | | μA |
| Maximum DC Reverse Current At Rated DC Blocking Voltage $T_A$=100°C | $I_R$ | 100 | | | | | | | | μA |
| Maximum Reverse Recovery Time(Note1) | Trr | 35 | | | | | | | | ns |
| Typical Junction Capacitance(Note2) | Cj | 40 | | | | 30 | | | | pF |
| Typical Thermal Resistance (NOTE3) | $R_{\theta JA}$ | 65 | | | | | | | | ℃/W |
| Operating Temperature Range | $T_J$ | -65 to+125 | | | | | | | | ℃ |
| Storage Temperature Range | $T_{STG}$ | -65 to+150 | | | | | | | | ℃ |

NOTE: 1. Pulse test:300us pulse width,1% duty cycle.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3.Thermal resistance junction to ambient

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FIG.1-MAXIMUM AVERAGE FORWARD CURRENT DERATING

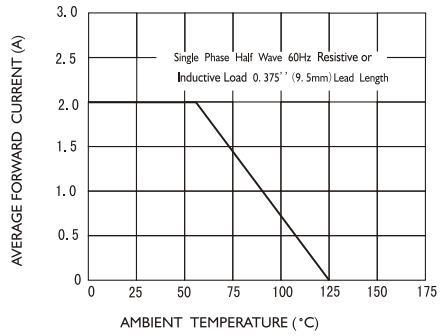



FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

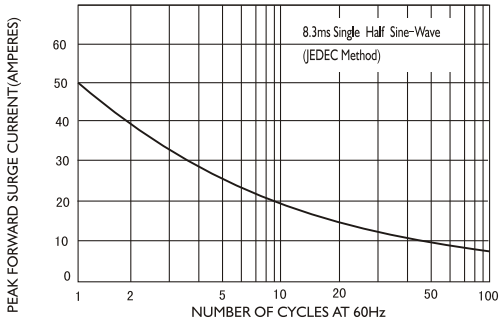



FIG.3-TYPICAL FORWARD CHARACTERISTICS

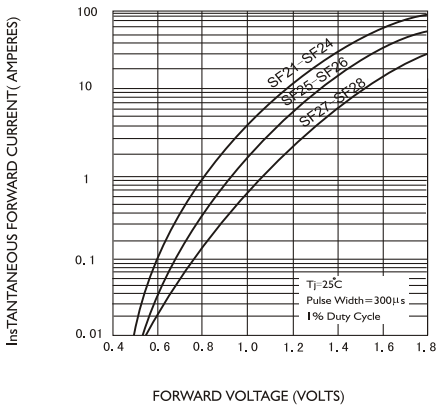



FIG.4-TYPICAL REVERSE CHARACTERISTICS

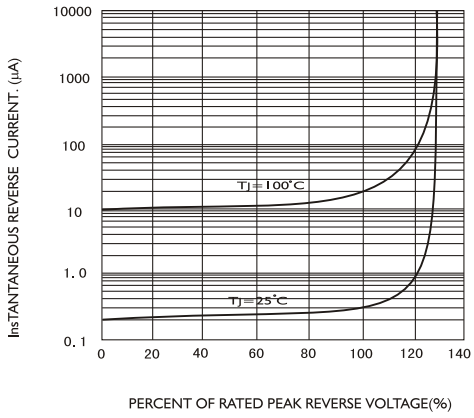



FIG.5-TYPICAL JUNCTION CAPACITANCE

