

# SF21 THRU SF28

## SUPER FAST RECTIFIERS

Reverse Voltage – 50 to 600 Volts

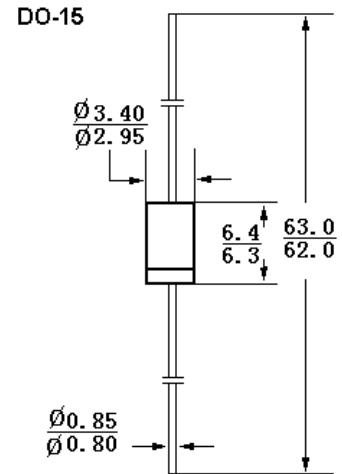
Forward Current – 2.0 Amperes

### Features

- Super fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs, (2.3kg) tension

### Mechanical Data

- **Case:** JEDEC DO-15 molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any



Dimensions in mm

### Absolute Maximum Ratings and Characteristics

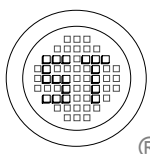
Rating at 25°C ambient temperature unless otherwise specified. Single-phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

|   | Symbols    | SF21        | SF22 | SF23 | SF24 | SF25 | SF26 | SF28 | Units |
|---|------------|-------------|------|------|------|------|------|------|-------|
| Repetitive Peak Reverse Voltage   | $V_{RRM}$  | 50          | 100  | 150  | 200  | 300  | 400  | 600  | V     |
| RMS Voltage   | $V_{RMS}$  | 35          | 70   | 105  | 140  | 210  | 280  | 420  | V     |
| DC Blocking Voltage   | $V_{DC}$   | 50          | 100  | 150  | 200  | 300  | 400  | 600  | V     |
| Average Forward Rectified Current 0.375" (9.5mm) Lead Length at $T_A = 55^\circ C$                | $I_{(AV)}$ | 2.0         |      |      |      |      |      |      | A     |
| Peak Forward Surge Current, 8.3mS Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$  | 50          |      |      |      |      |      |      | A     |
| Instantaneous Forward Voltage @ 2.0A  | $V_F$      | 0.95        |      |      | 1.25 |      |      | V    |       |
| DC Reverse Current @ $T_A = 25^\circ C$   | $I_R$      | 5           |      |      |      |      |      |      | uA    |
| at Rated DC Blocking Voltage @ $T_A = 100^\circ C$  | $I_R$      | 50          |      |      |      |      |      |      |       |
| Reverse Recovery Time (Note 1)  | $T_{rr}$   | 35          |      |      |      |      |      |      | nS    |
| Typical Junction Capacitance (Note 2)   | $C_J$      | 60          |      |      | 30   |      |      | pF   |       |
| Typical Thermal Resistance (Note 3)   | $R_{JA}$   | 50          |      |      |      |      |      |      | °C/W  |
| Operating Junction Temperature Range  | $T_J$      | -65 to +150 |      |      |      |      |      |      | °C    |
| Storage Temperature Range   | $T_S$      | -65 to +150 |      |      |      |      |      |      | °C    |

Note: (1) Reverse recovery test conditions:  $I_F = 0.5A$ ,  $I_R = 1A$ ,  $I_{RR} = 0.25A$ .

(2) Measured at 1 MHz and applied reverse voltage of 4 Volts D.C

(3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P. C. B. mounted



## SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001  
Certificate No. 7116



ISO 9001 : 2000  
Certificate No. 550-159-04-04-04

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