

SFR601 – SFR607

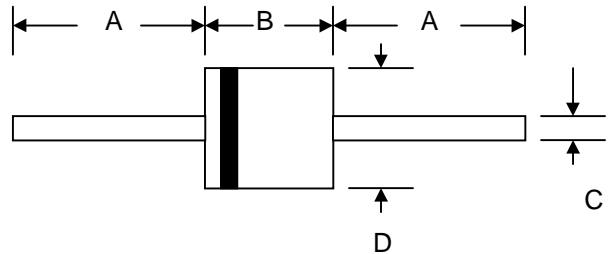
6.0A SOFT FAST RECOVERY RECTIFIER

Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 2.1 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Epoxy: UL 94V-O rate flame retardant



| R-6 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 25.4 | — |
| B | 8.60 | 9.10 |
| C | 1.20 | 1.30 |
| D | 8.60 | 9.10 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

| Characteristic | Symbol | SFR601 | SFR602 | SFR603 | SFR604 | SFR605 | SFR606 | SFR607 | Unit |
|--|--------------|-------------|--------|--------|--------|--------|--------|--------|------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | | | | | | | | |
| Working Peak Reverse Voltage | V_{RWM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| DC Blocking Voltage | V_R | | | | | | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 1) @ $T_A = 55^\circ\text{C}$ | I_O | 6.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 200 | | | | | | | A |
| Forward Voltage @ $I_F = 6.0\text{A}$ | V_{FM} | 1.2 | | | | | | | V |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$ | I_{RM} | 10 200 | | | | | | | μA |
| Reverse Recovery Time (Note 2) | t_{rr} | 120 | | | | 200 | 350 | | nS |
| Typical Junction Capacitance (Note 3) | C_j | 100 | | | | | | | pF |
| Operating Temperature Range | T_j | -65 to +125 | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

*Glass passivated forms are available upon request

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case

2. Measured with $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $IRR = 0.25\text{A}$. See figure 5.

3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

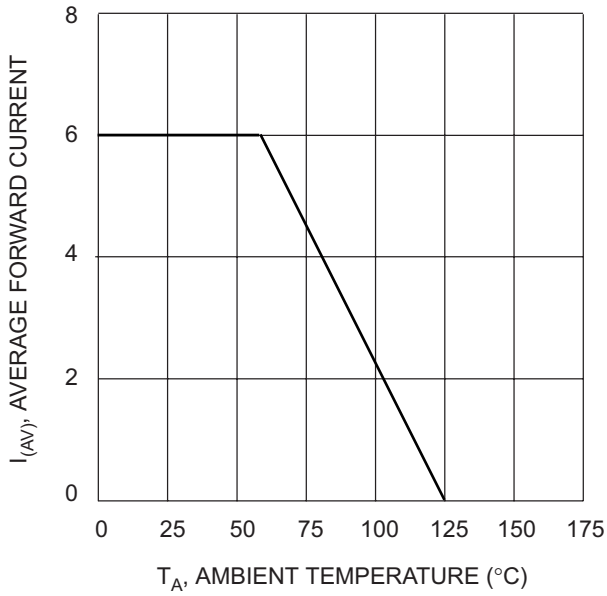


Fig. 1, Typical Forward Current Derating Curve

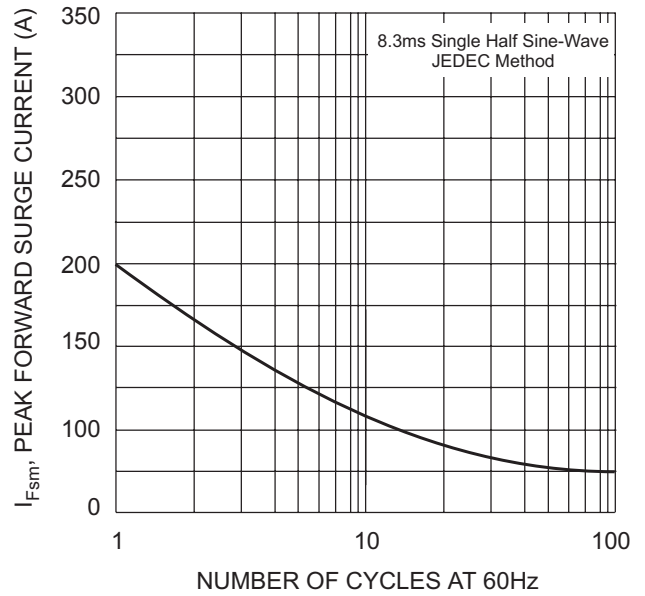


Fig. 2 Max Non-Repetitive Peak Surge Current

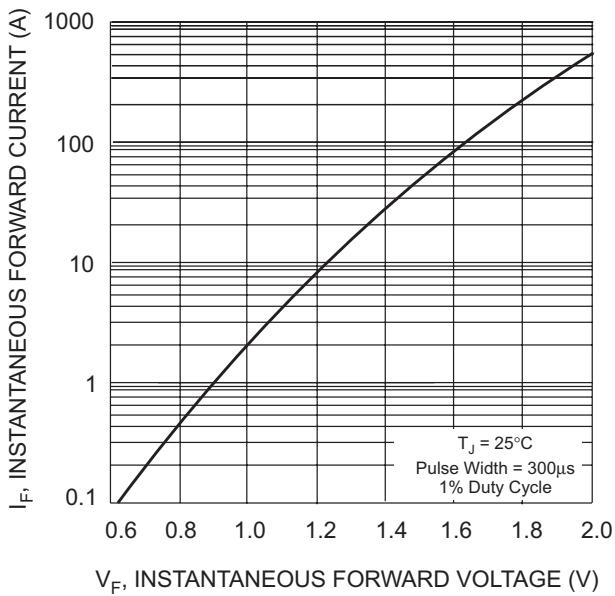


Fig. 3, Typical Instantaneous Forward Characteristics

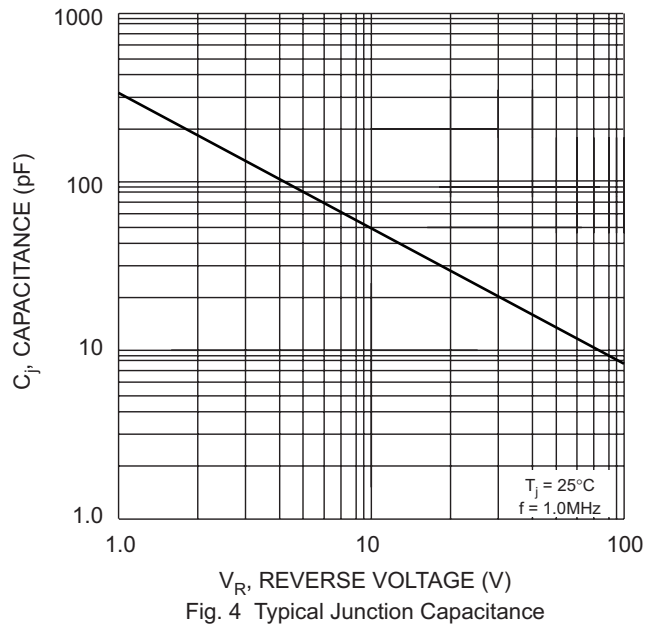
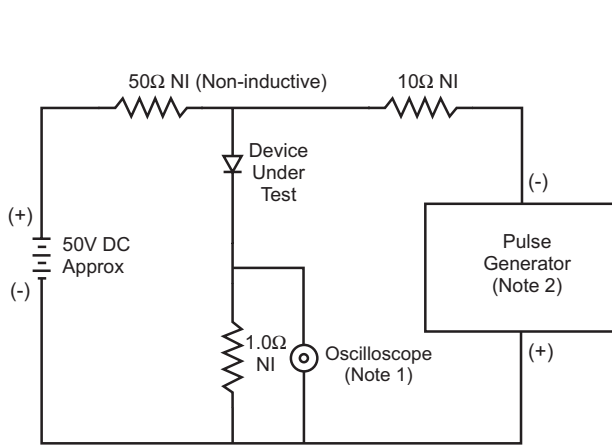


Fig. 4 Typical Junction Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

ORDERING INFORMATION

| Product No.♦ | Package Type | Shipping Quantity |
|------------------|--------------|-------------------|
| SFR601-T3 | R-6 | 800/Tape & Reel |
| SFR601 | R-6 | 250 Units/Box |
| SFR602-T3 | R-6 | 800/Tape & Reel |
| SFR602 | R-6 | 250 Units/Box |
| SFR603-T3 | R-6 | 800/Tape & Reel |
| SFR603 | R-6 | 250 Units/Box |
| SFR604-T3 | R-6 | 800/Tape & Reel |
| SFR604 | R-6 | 250 Units/Box |
| SFR605-T3 | R-6 | 800/Tape & Reel |
| SFR605 | R-6 | 250 Units/Box |
| SFR606-T3 | R-6 | 800/Tape & Reel |
| SFR606 | R-6 | 250 Units/Box |
| SFR607-T3 | R-6 | 800/Tape & Reel |
| SFR607 | R-6 | 250 Units/Box |

Products listed in **bold** are WTE **Preferred** devices.

♦T3 suffix refers to a 13" reel.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

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Won-Top Electronics Co., Ltd.

No. 44 Yu Kang North 3rd Road, Chine Chen Dist., Kaohsiung, Taiwan

Phone: 886-7-822-5408 or 886-7-822-5410

Fax: 886-7-822-5417

Email: sales@wontop.com

Internet: http://www.wontop.com

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