**Solid State Devices, Inc.**
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# SFS3027S.22 through SFS3029S.22

## Designer's Data Sheet

## 0.5 AMP, 30 - 100 Volt SILICON CONTROLLED RECTIFIER

**Part Number/Ordering Information** [1/]

**SFS302 ___ S.22 ___**

**Screening** [2/]
- __ = Not Screened
- TX = TX Level
- TXV = TXV
- S = S Level

**Voltage/Family**
- 7 = 30V
- 8 = 60V
- 9 = 100V

**FEATURES:**
- Passivated planar construction
- Low on-state voltage and fast switching
- Hermetically Sealed surface mount power package

| MAXIMUM RATINGS | | Symbol | Value | Units |
|---|---|---|---|---|
| **Peak Repetitive Reverse Voltage and DC Blocking Voltage** | SFS3027<br>SFS3028<br>SFS3029 | $V_{DRM}$<br>$V_{RRM}$ | 30<br>60<br>100 | **Volts** |
| **Non-Repetitive Peak Reverse Blocking Voltage** (t < 5.0 ms) | SFS3027<br>SFS3028<br>SFS3029 | $V_{RSM}$ | 50<br>100<br>200 | **Volts** |
| **RMS On-State Current,** (All Conduction Angles, $T_C$ = 100°C) | | $I_{T\ (RMS)}$ | 0.5 | **Amps** |
| **Peak Non-Repetitive Surge Current** (One Cycle, 60 Hz ) | | $I_{TSM}$ | 8 | **Amps** |
| **Peak Gate Power** | | $P_{GM}$ | 0.1 | **Watts** |
| **Average Gate Current** | | $I_{G(ave)}$ | 0.025 | **Amps** |
| **Peak Gate Current** | | $I_{GM}$ | 0.25 | **Amps** |
| **Reverse Gate Current** | | $I_{GR}$ | 0.003 | **Amps** |
| **Reverse Gate Voltage** | | $V_{GM}$ | 5.0 | **Volts** |
| **Operating Junction Temperature Range** | | $T_J$ | -65 to +150 | **°C** |
| **Storage Temperature Range** | | $T_{stg}$ | -65 to +200 | **°C** |
| **Thermal Resistance, Junction to Case** | | $R_{\theta JC}$ | 15 | **°C/W** |

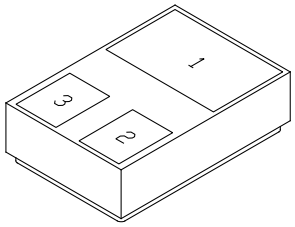
**NOTES:**

**1/** For ordering information, price, operating curves, and availability- Contact factory.

**2/** Screening based on MIL-PRF-19500. Screening flows available on request.

**3/** Unless otherwise specified, all electrical characteristics @25°C.

**SMD.22**



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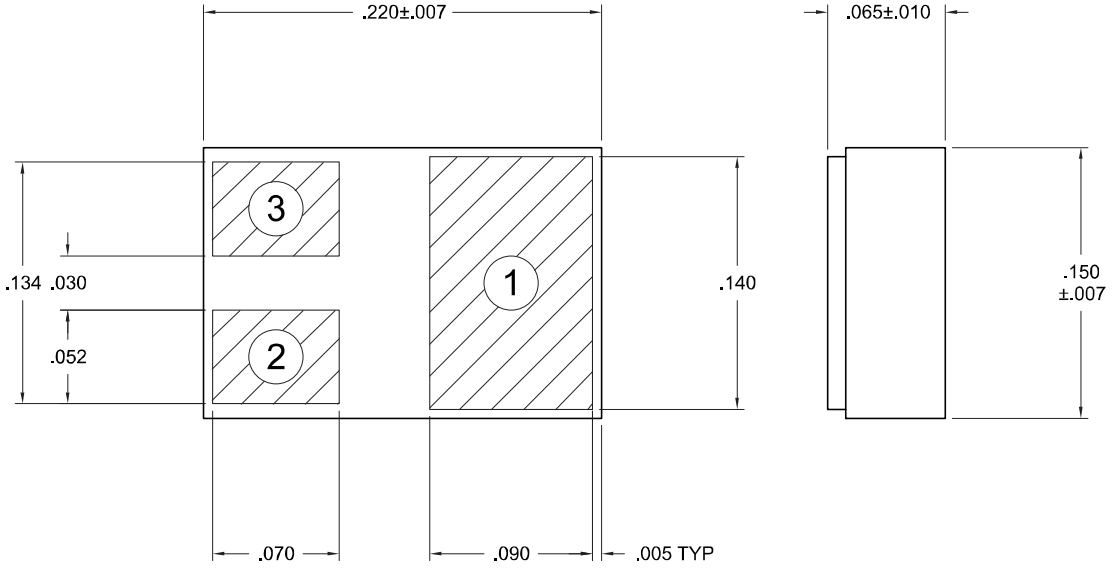
# SFS3027S.22 through SFS3029S.22

| ELECTRICAL CHARACTERISTICS | | Symbol | Min | Typical | Max | Unit |
|---|---|---|---|---|---|---|
| **Peak Reverse Blocking Current**<br>Rated $V_{RRM}$, $R_{GK}$ = 1000 Ω | $T_C$ = 25°C<br>$T_C$ = 150°C | $I_{RRM}$ | — | 0.08<br>0.15 | 0.1<br>50 | **µA** |
| **Peak Forward Blocking Current**<br>Rated $V_{DRM}$, $R_{GK}$ = 1000 Ω | $T_C$ = 25°C<br>$T_C$ = 150°C | $I_{DRM}$ | — | 0.08<br>0.15 | 0.1<br>20 | **µA** |
| **Peak On-State Voltage**<br>$I_F$ = 1.0 A pulse | | $V_{TM}$ | 0.8 | 1.1 | 1.5 | **V** |
| **Gate Trigger Current**<br>$V_D$ = 5 $V_{DC}$, $R_L$ = 100 Ω, $R_e$ = 10 kΩ | $T_C$ = 25°C<br>$T_C$ = -65°C | $I_{GT}$ | —<br>— | 25<br>50 | 200<br>1200 | **µA** |
| **Gate Trigger Voltage**<br>$V_D$ = 5 $V_{DC}$, $R_L$ = 100 Ω, $R_e$ = 100 Ω | $T_C$ = 25°C<br>$T_C$ = -65°C<br>$T_C$ = 150°C | $V_{GT}$ | 0.4<br>0.6<br>0.1 | 0.55<br>0.75<br>0.20 | 0.8<br>1.1<br>0.6 | **V** |
| **Holding Current**<br>$V_D$ = 5 $V_{DC}$, $R_{GK}$ = 1000 Ω | $T_C$ = 25°C<br>$T_C$ = -65°C<br>$T_C$ = 150°C | $I_H$ | 0.3<br>0.5<br>0.05 | 1.0<br>1.5<br>0.38 | 5.0<br>10.0<br>1.0 | **mA** |

**Case Outline: SMD.22**

**PAD 1: ANODE**
**PAD 2: CATHODE**
**PAD 3: GATE**




| NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release. | DATA SHEET #: SCR010B | DOC |
|---|---|---|