



Solid State Devices, Inc.

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SFS3027S.22 through SFS3029S.22

0.5 AMP, 30 - 100 Volt SILICON CONTROLLED RECTIFIER

Designer's Data Sheet

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 | V_{DRM} | 30 | Volts |
| | SFS3028 | V_{RRM} | 60 | |
| | SFS3029 | | 100 | |
| Non-Repetitive Peak Reverse Blocking Voltage (t < 5.0 ms) | SFS3027 | V_{RSM} | 50 | Volts |
| | SFS3028 | | 100 | |
| | SFS3029 | | 200 | |
| RMS On-State Current, (All Conduction Angles, $T_C = 100^\circ\text{C}$) | | $I_{T(RMS)}$ | 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 | $^\circ\text{C}$ |
| Storage Temperature Range | | T_{stg} | -65 to +200 | $^\circ\text{C}$ |
| Thermal Resistance, Junction to Case | | $R_{\theta JC}$ | 15 | $^\circ\text{C/W}$ |

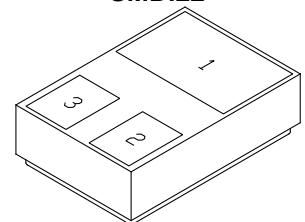
NOTES:

^{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



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



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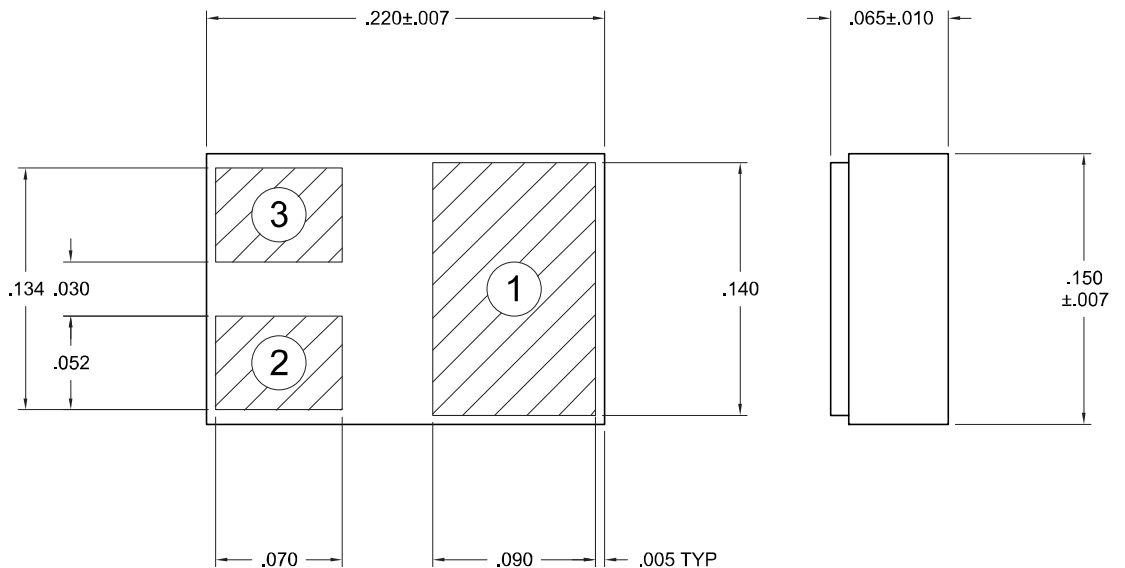
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| ELECTRICAL CHARACTERISTICS | | Symbol | Min | Typical | Max | Unit |
|---|--|-----------|--------------------|----------------------|--------------------|---------------|
| Peak Reverse Blocking Current Rated V_{RRM} , $R_{GK} = 1000 \Omega$ | $T_C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

Case Outline: SMD.22

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



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