



# Solid State Devices, Inc.

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## SFS2510 thru SFS2540 Series

**25 AMP**  
**100 – 400 VOLTS**  
**FAST SWITCHING**  
**SILICON CONTROLLED RECTIFIER**

### Designer's Data Sheet

**Part Number/Ordering Information<sup>1/</sup>**  
SFS25

**Screening<sup>2/</sup>**  
 — = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

**Package**  
/48 = TO-48

**Voltage/Family**  
 10 = 100 V  
 20 = 200 V  
 25 = 250 V  
 30 = 300 V  
 40 = 400 V

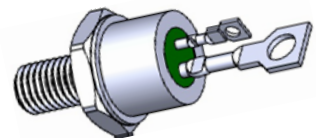
- FEATURES:**
- Low-Level Gate Characteristics
  - $I_{GT} = 200 \mu A$  (Max) @ 25°C
  - Low Holding Current  $I_H = 1 \text{ mA}$  (Max) @ 25°C
  - Anode Common to Case
  - Hermetically Sealed
  - TX, TXV, S-Level Screening Available. Consult Factory

MAXIMUM RATINGS <sup>3/</sup>		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SFS2510	$V_{DRM}$ $V_{RRM}$	100	Volts
	SFS2520		200	
	SFS2525		250	
	SFS2530		300	
	SFS2540		400	
Non-Repetitive Peak Reverse Blocking Voltage $t \leq 5.0 \text{ ms}$	SFS2510	$V_{RSM}$	150	Volts
	SFS2520		300	
	SFS2525		350	
	SFS2530		400	
	SFS2540		500	
RMS On-State Current	All Conduction Angles	$I_T (RMS)$	35	Amps
Average On-State Current	$T_C = 50^\circ C$	$I_T (AV)$	25	Amps
Peak Non-Repetitive Surge Current One Cycle, 60 Hz, $T_J = 120^\circ C$ , $t = 8.3 \text{ ms}$		$I_{TSM}$	210	Amps
Peak Gate Power		$P_{GM}$	60	Watts
Average Gate Power		$P_G (AV)$	1.0	Watts
Peak Gate Current		$I_{GM}$	10	Amps
Peak Gate Voltage		$V_{GM}$	15	Volts
Operating Junction Temperature Range		$T_J$	-65 to +135	°C
Storage Temperature Range		$T_{stg}$	-65 to +150	°C
Thermal Resistance, Junction to Case		$R_{\theta JC}$	1.45	°C/W

**NOTES:**

- <sup>1/</sup> For ordering information, price, operating curves, and availability- Contact factory.  
<sup>2/</sup> Screening based on MIL-PRF-19500. Screening flows available on request.  
<sup>3/</sup> Unless Otherwise Specified, All Electrical Characteristics @  $T_C = 25^\circ C$ ,  $R_{GK} = 1 \text{ K}\Omega$

**TO-48**





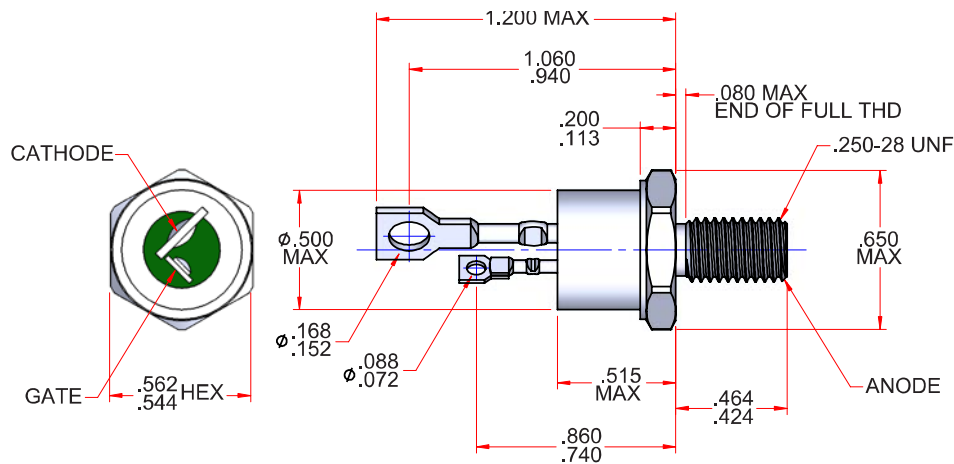
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ELECTRICAL CHARACTERISTICS <sup>3/</sup>		Symbol	Min	Max	Unit
<b>Peak Reverse Blocking Current</b> Rated $V_{RRM}$ , $T_C = 25^\circ C$		$I_{RRM}$	—	2	mA
<b>Peak Forward Blocking Current</b> Rated $V_{DRM}$ , $T_C = 25^\circ C$		$I_{DRM}$	—	2	mA
<b>Peak On-State Voltage</b> $I_F = 25$ A Peak, $t = 1$ ms, Duty Cycle $\leq 1\%$ $I_F = 100$ A Peak, $t = 1$ ms, Duty Cycle $\leq 1\%$		$V_{TM}$	— —	2.05 2.25	Volts
<b>Gate Trigger Current</b> $V_D = 12$ V <sub>DC</sub> , $R_L = 33 \Omega$		$I_{GT}$	—	180	mA
<b>Gate Trigger Voltage</b> $V_D = 12$ V <sub>DC</sub> , $R_L = 33 \Omega$		$V_{GT}$	—	1.5	Volts
<b>Holding Current</b> $I_T = 500$ mA, Gate Open		$I_H$	—	70	mA

### PACKAGE OUTLINE: TO-48



### Available Part Numbers:

SFS2510/48   SFS2520/48   SFS2525/48   SFS2530/48  
 SFS2540/48

### PIN ASSIGNMENT (Standard)

Package	Cathode	Gate	Anode
TO-48 (/48)	Terminal 1	Terminal 2	Cathode

**NOTE:** All specifications are subject to change without notification.  
 SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: SCR006B**

**DOC**