



Solid State Devices, Inc.

14830 Valley View Blvd * La Mirada, Ca 90638

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Designer's Data Sheet

FEATURES:

- Low-Level Gate Characteristics
- $I_{GT} = 200 \mu\text{A}$ (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

SFS2510 thru SFS2540

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



TO-48

MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED, $R_{\theta\text{JK}} = 1\text{K } \Omega$)		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)		$I_{\text{T(RMS)}}$	35	Amps
Average On-State Current	$T_C = 50^\circ\text{C}$	$I_{\text{T(AV)}}$	25	Amps
Peak Non-Repetitive Surge Current (One Cycle, 60 Hz, $T_J = 120^\circ\text{C}$, $t = 8.3 \text{ ms}$)		I_{TSM}	210	Amps
Peak Gate Power		P_{GM}	60	Watts
Average Gate Power		$P_{\text{G(AV)}}$	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		$R_{\theta\text{JC}}$	1.45	°C/W



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SFS2510 thru SFS2540

ELECTRICAL CHARACTERISTICS	Symbol	Min	Max	Unit
Peak Reverse Blocking Current (Rated V_{RRM} , $T_C = 25^\circ\text{C}$)	I_{RRM}	—	2	mA
Peak Forward Blocking Current (Rated V_{DRM} , $T_C = 25^\circ\text{C}$)	I_{DRM}	—	2	mA
Peak On-State Voltage ($I_F = 25$ 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
Gate Trigger Current ($V_D = 12$ V _{DC} , $R_L = 33 \Omega$)	I_{GT}	—	180	mA
Gate Trigger Voltage ($V_D = 12$ V _{DC} , $R_L = 33 \Omega$)	V_{GT}	—	1.5	Volts
Holding Current ($I_T = 500$ mA, Gate Open)	I_H	—	70	mA

NOTES:

1/ Unless Otherwise Specified, All Electrical Characteristics @ $T_C = 25^\circ\text{C}$, $R_{GK} = 1\text{K} \Omega$.

PACKAGE OUTLINE: TO-48

The drawing shows a perspective view of the TO-48 package labeled 'A' and two cross-sectional views. Dimensions are provided in inches:

- Top lead diameter: $.08 \pm .008$
- Lead length: 1.2 Max
- Lead thickness: $.08$ Max
- Lead spacing: $.74 - .86$
- Lead diameter: $.120$ Max
- Body diameter: $.444 \pm .02$
- Body length: $.562$ Max
- Gate lead diameter: $.160 \pm .008$
- Gate lead length: 0.5 Max
- Body diameter: $.94 - 1.06$
- Body diameter: $.505$ Max
- Body diameter: $9/16$ over flats
- Thread: $\frac{1}{4}-28$ UNF

Available Part Numbers:

SFS2510	SFS2520	SFS2525	SFS2530	SFS2540
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