



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-7855 \* Fax: (562) 404-1773  
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## SUM20F & FSMS thru SUM50F & FSMS

### Designer's Data Sheet

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

SUM — F — —

Screening<sup>2/</sup> — = None  
TX = TX Level  
TXV = TXV Level  
S = S Level

Package  
— = Axial  
SMS = Surface Mount Square Tab

Recovery Time  
F = Fast

Voltage  
20 = 2000 V  
25 = 2500 V  
30 = 3000 V  
35 = 3500 V  
40 = 4000 V  
50 = 5000 V

**0.5 AMP  
2000-5000 VOLTS  
180 nsec  
HIGH VOLTAGE  
RECTIFIER**

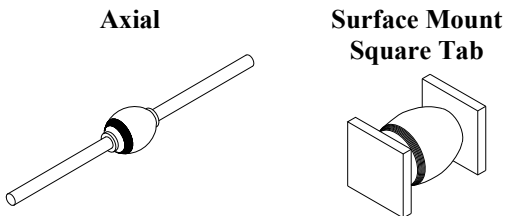
**FEATURES:**

- Fast Recovery: 180 nsec Maximum
- PIV to 5000 Volts
- Hermetically Sealed Axial and Surface Mount Package
- Void-Free Construction
- Metallurgically Bonded
- 175°C Maximum Operating Temperature
- TX, TXV, and Space Level Screening Available<sup>2/</sup>

### ELECTRICAL CHARACTERISTICS

Part Number	Peak Inverse Voltage	Average Rectifier Current		Maximum Reverse Current		Maximum Forward Voltage	Maximum Surge Current (1 Cycle)	Maximum Reverse Recovery Time	Maximum Junction Capacitance	Typical Thermal Impedance
		I <sub>O</sub>	I <sub>R</sub>	I <sub>R</sub>	I <sub>R</sub>					
Symbol	PIV	I <sub>O</sub>	I <sub>R</sub>	I <sub>R</sub>	I <sub>R</sub>	V <sub>F</sub>	I <sub>FSM</sub>	t <sub>RR</sub>	C <sub>J</sub>	R <sub>θJL</sub> /R <sub>θJE</sub>
Units	V	mA	μA	μA	μA	Volts	Amps	Nsec	pF	°C/W
Conditions	25°C	25°C	100°C	25°C @ PIV	100°C @ PIV	25°C @ I <sub>O</sub>	25°C 8.3ms Pulse	25°C I <sub>F</sub> = 0.5 A I <sub>R</sub> = 1.0 A I <sub>RR</sub> = 0.25 A	25°C V <sub>R</sub> = 100 V f <sub>T</sub> = 1 MHZ	L = 3/8"
SUM20F	2000	500	300	1.0	15	8	25	180	10	16
SUM25F	2500	500	300	1.0	15	8	25	180	10	16
SUM30F	3000	500	300	1.0	15	11	25	180	10	16
SUM35F	3500	500	300	1.0	15	11	25	180	10	16
SUM40F	4000	500	300	1.0	15	11	25	180	10	16
SUM50F	5000	500	300	1.0	15	11	25	180	10	16

1/ For Ordering Information, Price, and Availability – Contact Factory.  
 2/ Screening based on MIL-PRF-19500. Screening flows available on request.  
 3/ Operating and testing over 10,000 V/inch may require encapsulation or immersion in a suitable dielectric material.  
 4/ Max. forward voltage measured with instantaneous forward pulse of 300μsec minimum.  
 5/ Max. Lead/End Tab temp. for soldering is 250°C, 3/8" from case for 5 sec maximum.  
 6/ Operating and storage temperature: -65°C to +175°C.



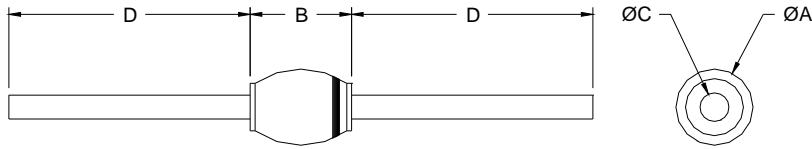


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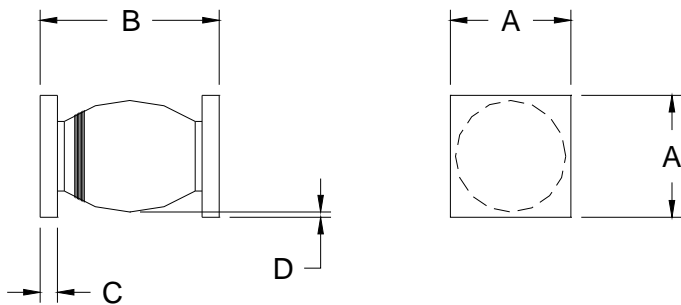
**SUM20F & FSMS  
 thru  
 SUM50F & FSMS**

**PACKAGE OUTLINE: Axial**



DIMENSIONS		
DIM	MIN	MAX
A	0.065"	0.165"
B	---	0.300"
C	0.047"	0.053"
D	1.00"	—

**PACKAGE OUTLINE: Surface Mount Square Tab**



DIMENSIONS		
DIM	MIN	MAX
A	0.170"	0.180"
B	0.285"	0.325"
C	0.020"	0.030"
D	0.002"	—

Notes:  
 Consult manufacturing for operating curves.