



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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**SUM60F thru SUM90F  
 and  
 SUM60FSMS thru SUM90FSMS**

**Designer's Data Sheet**

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

SUM \_ \_ \_

L Screening <sup>2/</sup>  
     \_ = Not Screened  
     TX = TX Level  
     TXV = TXV  
     S = S Level

Package Type  
     \_ = Axial Leaded  
     SMS = Surface Mount Square Tab

**Voltage/Family**

60F = 6,000V  
 70F = 7,000V  
 80F = 8,000V  
 90F = 9,000V

**500 mA  
 6,000 thru 9,000 VOLTS  
 180 ns FAST RECOVERY  
 RECTIFIER**

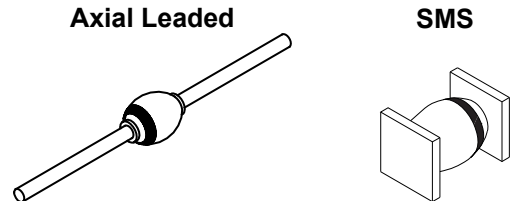
- FEATURES:**
- PIV to 9,000 Volts
  - Hermetically Sealed Axial and Square Tab Surface Mount Package
  - Fast Recovery 180 nsec Maximum <sup>4/</sup>
  - Void Free Construction
  - Metallurgically Bonded
  - 175°C Maximum Operating Temperature
  - TX, TXV, and S-Level Screening Available <sup>2/</sup>
  - Also Available in Ultra Fast Versions, Consult Factory

**MAXIMUM RATINGS <sup>3/ 6/</sup>**

RATING	SYMBOL	VALUE	UNIT
Peak Inverse Voltage	PIV	SUM60F and SUM60FSMS: 6000 SUM70F and SUM70FSMS: 7000 SUM80F and SUM80FSMS: 8000 SUM90F and SUM90FSMS: 9000	Volts
Average Rectified Current	I <sub>O1</sub> I <sub>O2</sub>	T <sub>A</sub> = 25°C: 500 T <sub>A</sub> = 100°C: 300	mA
Surge Current (1 Cycle)	I <sub>FSM</sub>	25	Amps
Operating & Storage Temperature <sup>5/</sup>	T <sub>J</sub> and T <sub>STG</sub>	-65 to +175	°C

**NOTES:**

- 1/ For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.
- 2/ Screening Based on MIL-PRF-19500. Screening Flow Available on Request.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- 4/ I<sub>F</sub> = 500mA, I<sub>R</sub> = 1A, I<sub>RR</sub> = 250mA, T<sub>A</sub> = 25°C
- 5/ Maximum lead/end temperature for soldering is 250°C, 3/8" from case for 5 sec. maximum.
- 6/ Operating and testing over 10,000 V/inch may require encapsulation or immersion in suitable dielectric material.





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**ELECTRICAL CHARACTERISTICS <sup>3/</sup> <sub>6/</sub>**

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Maximum Forward Voltage (300µs pulse minimum) <span style="float: right;"><math>I_F = 500 \text{ mA}</math></span>	$V_F$	13.5	Vdc
Maximum Reverse Leakage Current ( $V_R = \text{Rated}$ )	$I_{R1}$ $I_{R2}$	1.0 15	µA µA
Maximum Junction Capacitance $V_R = 100 \text{ Vdc}$ , $f = 1 \text{ MHz}$	$C_J$	8	pF
Maximum Reverse Recovery Time $I_F = 500 \text{ mA}$ , $I_R = 1 \text{ A}$ , $I_{RR} = 250 \text{ mA}$ , $T_A = 25^\circ \text{C}$	$t_{rr}$	180	ns
Typical Thermal Impedance	$R_{\theta JL}$ $R_{\theta JE}$	18 18	°C/W

**Package Outlines:**

DIMENSIONS (inches)			DIMENSIONS (inches)		
DIM.	Minimum	Maximum	DIM.	Minimum	Maximum
A	.065	.165	A	.170	.180
B	---	.350	B	.330	.380
C	.047	.053	C	.020	.030
D	1.00	---	D	.002	---

