



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
 ssdi@ssdi-power.com \* www.ssdi-power.com

**SUM60UF thru SUM90UF  
 and  
 SUM60UFSMS thru SUM90UFSMS**

**Designer's Data Sheet**

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

SUM \_ \_ \_

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

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

**Voltage/Family**  
**60UF** = 6,000V  
**70UF** = 7,000V  
**80UF** = 8,000V  
**90UF** = 9,000V

**400 mA**  
**ULTRA FAST RECOVERY RECTIFIER**  
**6,000 thru 9,000 VOLTS**  
**70 nsec**

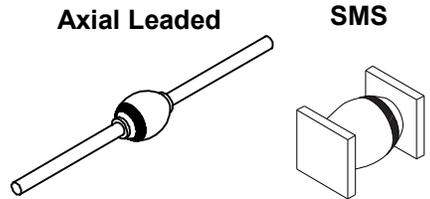
- FEATURES:**
- PIV to 9,000 Volts
  - Hermetically sealed axial and square tab surface mount package
  - Ultra fast recovery 70 nsec maximum <sup>4/</sup>
  - Void free construction
  - Metallurgically bonded
  - 175°C maximum operating temperature
  - TX, TXV, and S-level screening available <sup>2/</sup>
  - Also available in fast versions, consult factory

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

| RATING                                        |                                                                                                      | SYMBOL                                 | VALUE                        | UNIT  |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|-------|
| Peak Inverse Voltage                          | SUM60UF and SUM60UFSMS<br>SUM70UF and SUM70UFSMS<br>SUM80UF and SUM80UFSMS<br>SUM90UF and SUM90UFSMS | PIV                                    | 6000<br>7000<br>8000<br>9000 | Volts |
| Average Rectified Current                     | T <sub>A</sub> = 25°C<br>T <sub>A</sub> = 100°C                                                      | I <sub>O1</sub><br>I <sub>O2</sub>     | 400<br>250                   | mA    |
| Surge Current (1 Cycle)                       |                                                                                                      | I <sub>FSM</sub>                       | 25                           | Amps  |
| Operating & Storage Temperature <sup>5/</sup> |                                                                                                      | T <sub>J</sub> and<br>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 flows 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.





**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
 ssdi@ssdi-power.com \* www.ssdi-power.com

**SUM60UF thru SUM90UF  
 and  
 SUM60UFSMS thru SUM90UFSMS**

**ELECTRICAL CHARACTERISTICS 3/ 6/**

| CHARACTERISTICS                                                                                                                      | SYMBOL                             | VALUE     | UNIT     |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------|----------|
| Maximum Forward Voltage<br>(300µs pulse minimum) <span style="float: right;"><math>I_F = 400 \text{ mA}</math></span>                | $V_F$                              | 15.5      | Vdc      |
| Maximum Reverse Leakage Current<br>( $V_R = \text{Rated}$ )                                                                          | $I_{R1}$<br>$I_{R2}$               | 1.0<br>15 | µA<br>µA |
| Maximum Junction Capacitance<br>$V_R = 100 \text{ Vdc}$ , $f = 1 \text{ MHz}$ , $T_A = 25^\circ\text{C}$                             | $C_J$                              | 8         | pF       |
| Maximum Reverse Recovery Time<br>$I_F = 500 \text{ mA}$ , $I_R = 1 \text{ A}$ , $I_{RR} = 250 \text{ mA}$ , $T_A = 25^\circ\text{C}$ | $t_{rr}$                           | 70        | ns       |
| Typical Thermal Impedance                                                                                                            | $R_{\theta JL}$<br>$R_{\theta JE}$ | 18<br>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    | ---     |

