



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

**SUM60F thru SUM100F
 and
 SUM60FSMS thru SUM100FSMS**

**500 mA
 FAST RECOVERY RECTIFIER
 6,000 thru 10,000 VOLTS
 180 nsec**

- FEATURES:**
- PIV to 10,000 Volts
 - Hermetically sealed axial and square tab surface mount package
 - Fast recovery 180 nsec maximum ^{4/}
 - Void free construction
 - Metallurgically bonded
 - 175°C maximum operating temperature
 - TX, TXV, and S-level screening available^{2/}
 - Also available in fast versions, consult factory

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SUM _ _ _ _

L Screening ^{2/}
 _ = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

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

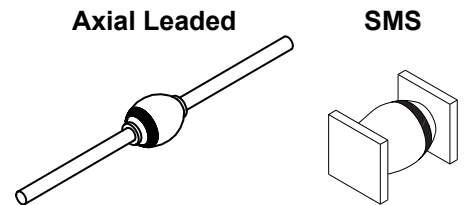
Voltage/Family
 60F = 6,000V
 70F = 7,000V
 80F = 8,000V
 90F = 9,000V
 100F = 10,000V

MAXIMUM RATINGS ^{3/ 6/}

| RATING | | | SYMBOL | VALUE | UNIT |
|---|--|---|--------------------------------------|---------------------------------------|-------|
| Peak Inverse Voltage | SUM60F and SUM60FSMS SUM70F and SUM70FSMS SUM80F and SUM80FSMS SUM90F and SUM90FSMS SUM100F and SUM100FSMS | | PIV | 6000 7000 8000 9000 10000 | Volts |
| Average Rectified Current | Axial @ L = 3/8" T _L ≤ 90°C T _L ≤ 125°C | Surface Mount T _{EC} ≤ 130°C T _{EC} ≤ 145°C | I _{O1} I _{O2} | 500 250 | mA |
| Surge Current (1 Cycle) | | | I _{FSM} | 30 | Amps |
| Operating & Storage Temperature ^{5/} | | | T _J and T _{STG} | -65 to +175 | °C |
| Typical Thermal Impedance | Junction to Lead for Axial, L = .375" Junction to End Tab for Surface Mount | | R _{θJL} R _{θJE} | 15 5 | °C/W |

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_F = 500mA, I_R = 1A, I_{RR} = 250mA, T_A = 25°C
- ^{5/} Maximum lead/end temperature for soldering is 250°C, 3/8" from the 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 ^{3/} _{6/}

| CHARACTERISTICS | SYMBOL | VALUE | UNIT |
|--|----------------------|-----------|--------------------------------|
| Maximum Forward Voltage (pulsed) $I_F = 500 \text{ mA}$ | V_F | 13.5 | Vdc |
| Maximum Reverse Leakage Current ($V_R = \text{Rated}$) $(T_A = +25^\circ\text{C})$ $(T_A = +100^\circ\text{C})$ | I_{R1} I_{R2} | 1.0 15 | μA μA |
| Maximum Junction Capacitance $V_R = 100 \text{ Vdc}$, $f = 1\text{MHz}$, $T_A = 25^\circ\text{C}$ | 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 |

Package Outlines:

| DIMENSIONS (inches) | | | DIMENSIONS (inches) | | |
|---------------------|---------|---------|---------------------|---------|---------|
| DIM. | Minimum | Maximum | DIM. | Minimum | Maximum |
| A | .115 | .165 | A | .170 | .180 |
| B | --- | .310 | B | .330 | .380 |
| C | .047 | .053 | C | .020 | .030 |
| D | 1.00 | --- | D | .002 | --- |

