Solid State Devices, Inc.
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SUM60F thru SUM100F
and
SUM60FSMS thru SUM100FSMS

Designer's Data Sheet

Part Number/Ordering Information [1/]

SUM ___ ___ ___

- **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

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**

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" $T_L \leq 90°C$ $T_L \leq 125°C$	Surface Mount $T_{EC} \leq 130°C$ $T_{EC} \leq 145°C$	**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		**$R_{\theta JL}$** **$R_{\theta JE}$**	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.

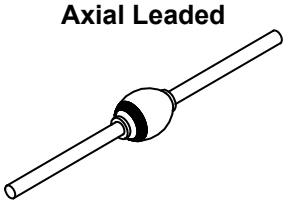
3/ Unless otherwise specified, all electrical characteristics @25ºC.

4/ I_F = 500mA, I_R = 1A, I_{RR} = 250mA, T_A = 25°C

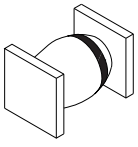
5/ Maximum lead/end temperature for soldering is 250°C, 3/8" from the case for 5 sec. maximum.

6/ Operating and testing over 10,000 V/inch may require encapsulation or immersion in suitable dielectric material.

Axial Leaded



SMS



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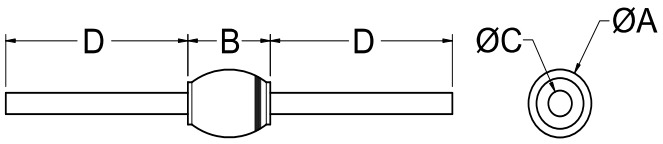
ELECTRICAL CHARACTERISTICS [3/] [6/]

CHARACTERISTICS		SYMBOL	VALUE	UNIT
Maximum Forward Voltage (pulsed)	I_F = 500 mA	V_F	13.5	Vdc
Maximum Reverse Leakage Current (V_R = Rated)	(T_A = +25°C) (T_A =+100°C)	I_{R1} I_{R2}	1.0 15	µA µA
Maximum Junction Capacitance V_R = 100 Vdc, f = 1MHz, T_A = 25°C		C_J	8	pF
Maximum Reverse Recovery Time I_F = 500mA, I_R = 1A, I_{RR} = 250mA, T_A = 25°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	---

AXIAL



SMS

