



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638

Phone: (562) 404-7855 \* Fax: (562) 404-1773

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**SAM50F thru SAM90F  
and  
SAM50UF thru SAM90UF**

**Designer's Data Sheet**

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

SAM \_\_\_\_\_

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

L Package  
     \_\_\_ = Axial  
     SMS = Surface Mount Square Tab

L Recovery Time  
     F = Fast Recovery  
     UF = Ultra Fast Recovery

L Voltage  
     50 = 5000                      80 = 8000  
     60 = 6000                      90 = 9000  
     70 = 7000

**0.5 Amp  
5000-9000 VOLTS  
60-150 nsec  
HIGH VOLTAGE  
RECTIFIER**

**FEATURES:**

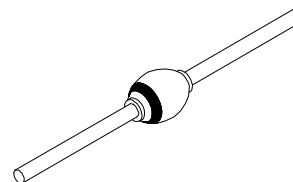
- Fast Recovery: 60-150 nsec Maximum
- PIV to 9000 Volts
- Hermetically Sealed
- Void-Free Construction
- Metallurgically Bonded
- 175°C Maximum Operating Temperature
- TX, TXV, and Space Level Screening Available<sup>2/</sup>

**ELECTRICAL CHARACTERISTICS**

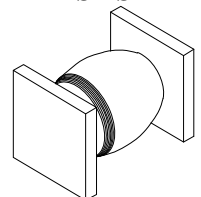
Part Number	Peak Inverse Voltage	Average Rectifier Current		Maximum Reverse Current		Maximum Forward Voltage	Maximum Surge Current (1 Cycle)	Maximum Reverse Recovery Time	Maximum Junction Capacitance	Typical Thermal Impedance
Symbol	PIV	I <sub>0</sub>		IR @ PIV		V <sub>F</sub>	I <sub>FSM</sub>	t <sub>RR</sub>	C <sub>J</sub>	θ <sub>JL</sub> /θ <sub>JE</sub>
Units	Volts	mA		µA		Volts	Amps	nsec	pF	(L=3/8") °C/W
Conditions		25°C	100°C	25°C	100°C	25°C	25°C	25°C	V <sub>R</sub> = 100V f <sub>T</sub> = 1MHZ	
SAM50F	5000	500	300	1.0	15	13	25	150	10	18
SAM60F	6000	500	300	1.0	15	13	25	150	10	18
SAM70F	7000	500	300	1.0	15	13	25	150	10	18
SAM80F	8000	500	300	1.0	15	13	25	150	10	18
SAM90F	9000	500	300	1.0	15	13	25	150	10	18
SAM50UF	5000	400	250	1.0	15	13	25	60	10	21
SAM60UF	6000	400	250	1.0	15	13	25	60	10	21
SAM70UF	7000	400	250	1.0	15	13	25	60	10	21
SAM80UF	8000	400	250	1.0	15	13	25	60	10	21
SAM90UF	9000	400	250	1.0	15	13	25	60	10	21

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. end tab temp. for soldering is 250°C for 5 sec maximum.  
 6/ Operating and storage temperature: -65°C to +175°C.  
 7/ Reverse Recovery Test Conditions: I<sub>F</sub>=.5mA, I<sub>R</sub>=100mA, I<sub>RR</sub>=25mA, T<sub>A</sub>=25°C.

**Axial**



**SMS**



**NOTE:** All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: RV0031D**

**DOC**



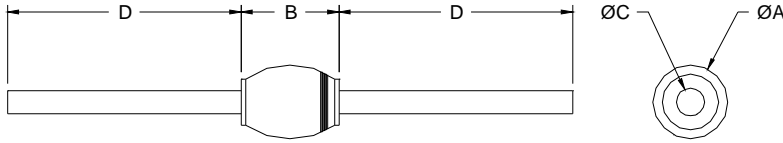
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 SAM50UF thru SAM90UF**

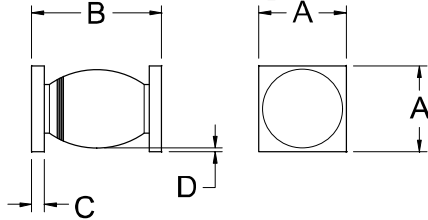
**PACKAGE OUTLINE:**

**Axial**



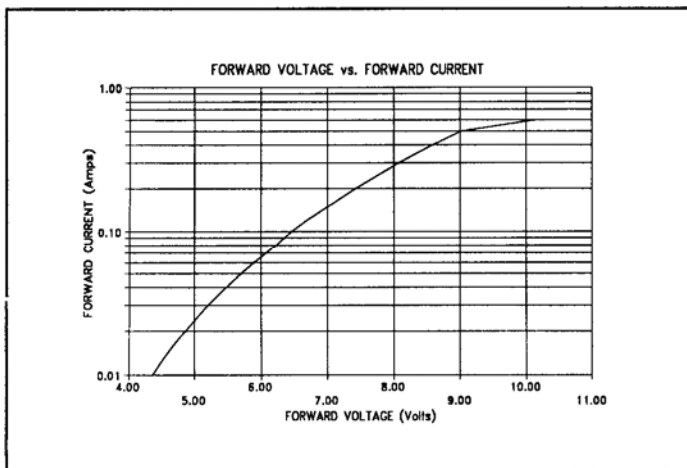
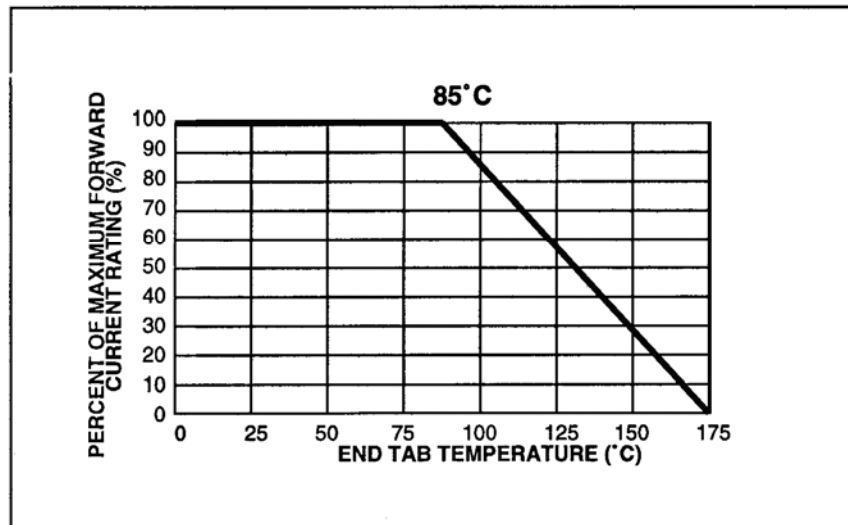
DIMENSIONS		
DIM	MIN	MAX
A	---	.300"
B	---	.425"
C	.047"	.063"
D	.400"	---

**Surface Mount Square Tab**

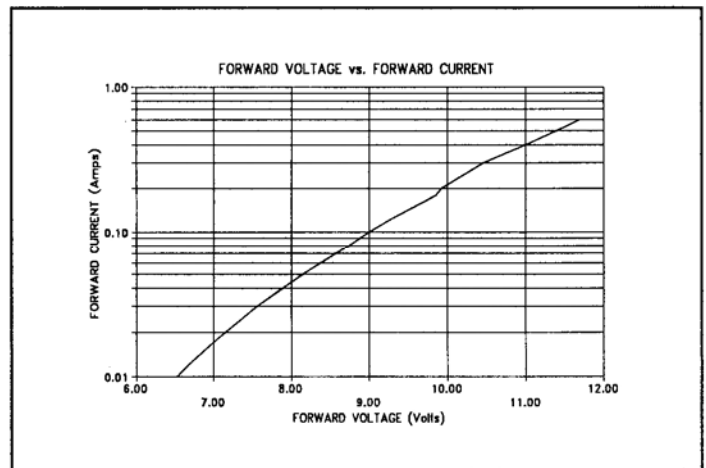


DIMENSIONS		
DIM	MIN	MAX
A	.195"	.205"
B	.330"	.410"
C	.020"	.035"
D	.002"	---

**TYPICAL OPERATING CURVE**



**SAM50F-SAM90F**



**SAM50UF-SAM90UF**

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