



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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**SDH20HF & HFSMS  
 thru  
 SDH60HF & HFSMS**

**0.6-1 AMP  
 2000-6000 VOLTS  
 HYPER FAST RECOVERY  
 HIGH VOLTAGE  
 RECTIFIER**

**Designer's Data Sheet**

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

SDH \_\_\_ HF \_\_\_

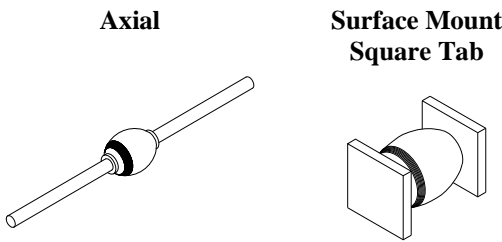
L Screening<sup>2/</sup> = None  
           TX = TX Level  
           TXV = TXV Level  
           S = S Level  
 L Package \_\_\_ = Axial  
           SMS = Surface Mount Square Tab  
 L Recovery Time  
           HF = Hyper Fast  
 L Voltage  
       20 = 2000 V  
       25 = 2500 V  
       30 = 3000 V  
       40 = 4000 V  
       50 = 5000 V  
       60 = 6000 V

- FEATURES:**
- Hyper Fast Recovery: 40 nsec Maximum
  - PIV to 6000 Volts
  - Hermetically Sealed Axial and Surface Mount Package
  - Void-Free Construction
  - Metallurgically Bonded
  - 175°C Maximum Operating Temperature
  - Replacement for 1N6512-18, 1N6520-26, SUM20HF-60HF, and SAM20HF-60HF series
  - TX, TXV, and Space Level Screening Available<sup>2/</sup>
  - Available in Fast and Hyper Fast Versions. Contact Factory.

**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 Resistance	
		I <sub>O</sub>	I <sub>O</sub>	IR	IR					θ <sub>JE</sub>	θ <sub>JL</sub>
Symbol	PIV	I <sub>O</sub>		IR		V <sub>F</sub>	I <sub>FSM</sub>	t <sub>RR</sub>	C <sub>J</sub>	θ <sub>JE</sub>	θ <sub>JL</sub>
Units	Volts	A		µA		Volts	Amps	nsec	pF	°C/W	
Conditions		25°C	100°C	25°C	100°C	25°C	25°C	25°C	VR = 100V f <sub>T</sub> = 1MHZ		L = 1/8"
SDH20HF	2000	1.0	0.5	1.0	50	8.2	40	40	10	4	8
SDH25HF	2500	1.0	0.5	1.0	50	8.2	40	40	10	4	8
SDH30HF	3000	1.0	0.5	1.0	50	8.2	40	40	10	4	8
SDH40HF	4000	0.6	0.3	1.0	50	12	30	40	8	4	8
SDH50HF	5000	0.6	0.3	1.0	50	12	30	40	8	4	8
SDH60HF	6000	0.6	0.3	1.0	50	12	30	40	8	4	8

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/ I<sub>F</sub> = I<sub>O</sub>; Max. forward voltage measured with instantaneous forward pulse of 300µsec minimum.  
 5/ Max. Lead/End Tab temp. for soldering is 250°C, 3/8" from case for 5 sec maximum.  
 6/ Operating and storage temperature: -65°C to +175°C.  
 7/ Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=.25A, TA=25°C.  
 8/ Surge Test Conditions: 1 ms square wave



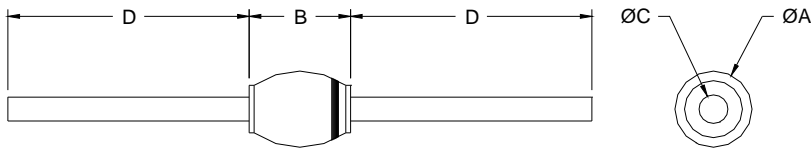


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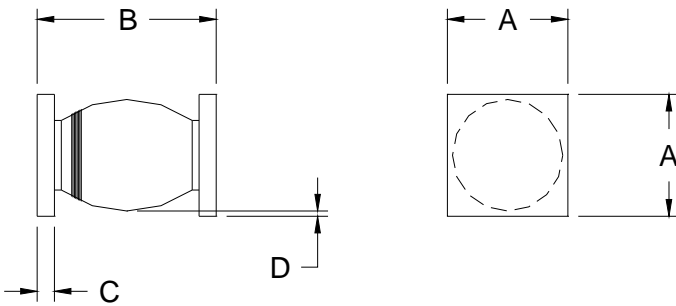
**SDH20HF & HFSMS  
 thru  
 SDH60HF & HFSMS**

**PACKAGE OUTLINE: Axial**



DIMENSIONS		
DIM	MIN	MAX
A	---	0.180"
B	.230"	.270"
C	0.047"	0.053"
D	1.00"	—

**PACKAGE OUTLINE: Surface Mount Square Tab**



DIMENSIONS		
DIM	MIN	MAX
A	0.195"	0.205"
B	0.280"	0.320"
C	0.020"	0.030"
D	0.002"	—

**Notes:**

Consult manufacturing for operating curves.