



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, CA 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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## SHF1104 & SHF1104SMS thru SHF1110 & SHF1110SMS

### 1 AMP 400 - 1000 V Hyper Fast Rectifier

**DESIGNER'S DATA SHEET**

**Part Number/Ordering Information <sup>1/</sup>**  
SHF11

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

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

**Family/Voltage**  
 04 = 400 V  
 06 = 600 V  
 08 = 800 V  
 09 = 900 V  
 10 = 1000V

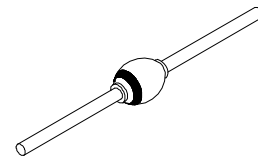
- Features:**
- Hyper fast recovery: 40 nsec maximum
  - PIV to 1000 Volts, consult factory
  - Hermetically sealed
  - Void free construction
  - For high efficiency applications
  - Replaces UES 1104, UES1106, 1N6621-1N6625
  - TX, TXV, and S level screening available<sup>2/</sup>

Maximum Ratings	Symbol	Value	Units
<b>Peak Repetitive Reverse and DC Blocking Voltage</b>	SHF1104	400	Volts
	SHF1106	600	
	SHF1108	800	
	SHF1109	900	
	SHF1110	1000	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 Hz Sine Wave, T <sub>A</sub> = 25°C)	I <sub>O</sub>	1.0	Amps
<b>Peak Surge Current</b> (8.3 ms Pulse, Half Sine Wave, T <sub>A</sub> = 25°C)	I <sub>FSM</sub>	20	Amps
<b>Operating &amp; Storage Temperature</b>	T <sub>OP</sub> & T <sub>STG</sub>	-65 to +175	°C
<b>Maximum Thermal Resistance</b>	Junction to Leads, L = 3/8 Junction to Tabs	35	°C/W
		28	

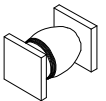
**NOTES:**

- <sup>1/</sup> For ordering information, price, and availability - contact factory.  
<sup>2/</sup> Screening based on MIL-PRF-19500. Screening flows available on request.

**Axial Lead Diode**



**SMS**



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



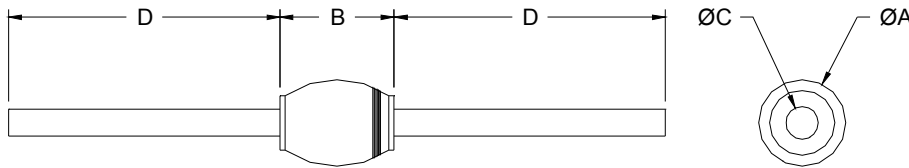
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**SHF1104 & SHF1104SMS  
 thru  
 SHF1110 & SHF1110SMS**

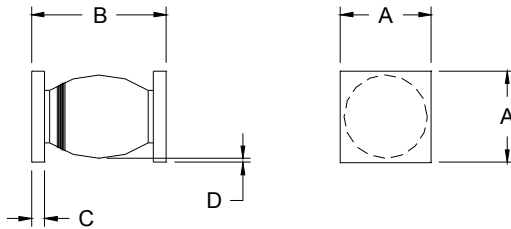
Electrical Characteristic		Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1A_{DC}$ , $T_A = 25^\circ C$ pulsed)	SHF1104-1106 SHF1108-1110	$V_F$	1.35 1.65	$V_{DC}$
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1A_{DC}$ , $T_A = -55^\circ C$ pulsed)	SHF1104-1106 SHF1108-1110	$V_F$	1.50 1.80	$V_{DC}$
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 25^\circ C$ pulsed)		$I_R$	10	$\mu A$
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 100^\circ C$ pulsed)		$I_R$	1	mA
<b>Reverse Recovery Time</b> ( $I_F = 500mA$ , $I_R = 1A$ , $I_{RR} = 250mA$ , $T_A = 25^\circ C$ )		$t_{RR}$	40	nsec
<b>Junction Capacitance</b> ( $V_R = 10V_{DC}$ , $T_A = 25^\circ C$ , $f = 1MHz$ )		$C_J$	22	pF

**Case Outline: (Axial)**



DIM	MIN	MAX
A	0.100"	0.130"
B	0.130"	0.180"
C	0.027"	0.033"
D	1.00"	--

**Case Outline: (SMS)**



DIM	MIN	MAX
A	0.127"	0.140"
B	0.180"	0.230"
C	0.020"	0.030"
D	0.002"	--