



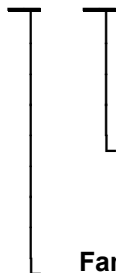
## Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, CA 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
ssdi@ssdi-power.com \* www.ssdi-power.com

### 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

60 = 600 V

70 = 700 V

80 = 800 V

90 = 900 V

## SHF1160 & SHF1160SMS thru SHF1190 & SHF1190SMS

**30 nsec  
1 Amp  
Hyper Fast Rectifier  
600 - 900 V**

#### Features:

- Hyper fast recovery: 30 nsec maximum
- PIV to 900 Volts, consult factory for higher voltages
- Low reverse leakage current
- Hermetically sealed
- Void free construction
- For high efficiency applications
- Higher voltages available – consult factory
- TX, TXV, and S level screening available <sup>2/</sup>

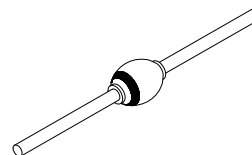
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SHF1160	$V_{RRM}$ $V_{RSM}$ $V_R$	600	Volts
	SHF1170		700	
	SHF1180		800	
	SHF1190		900	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$ )		$I_O$	1.0	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$ )		$I_{FSM}$	25	Amps
Operating & Storage Temperature		$T_{OP}$ & $T_{STG}$	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance	Junction to Leads, L = 3/8	$R_{\theta JE}$	50	$^\circ\text{C/W}$
	Junction to Tabs		28	

#### NOTES:

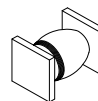
<sup>1/</sup> For ordering information, price, and availability - contact factory.

<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.

**DATA SHEET #: RC0157A**

**DOC**



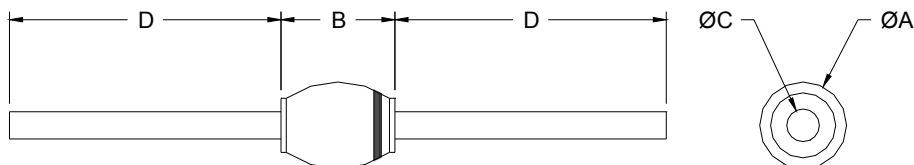
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# SHF1160 & SHF1160SMS thru SHF1190 & SHF1190SMS

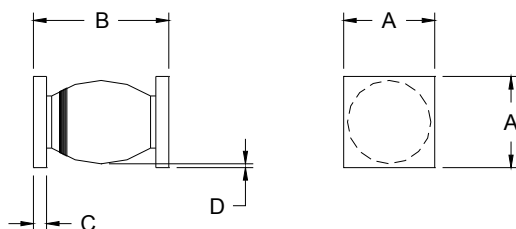
Electrical Characteristic	Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1A_{DC}$ , $T_A = 25^\circ C$ pulsed)	$V_F$	1.9	$V_{DC}$
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1A_{DC}$ , $T_A = -55^\circ C$ pulsed)	$V_F$	2.4	$V_{DC}$
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 25^\circ C$ pulsed)	$I_R$	10	$\mu A$
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 100^\circ C$ pulsed)	$I_R$	200	$\mu A$
<b>Reverse Recovery Time</b> ( $I_F = 500mA$ , $I_R = 1A$ , $I_{RR} = 250mA$ , $T_A = 25^\circ C$ )	$t_{RR}$	30	nsec
<b>Junction Capacitance</b> ( $V_R = 10V_{DC}$ , $T_A = 25^\circ C$ , $f = 1MHz$ )	$C_J$	18	pF

## Case Outline: (Axial)



DIM	MIN	MAX
A	0.100"	0.135"
B	0.130"	0.185"
C	0.027"	0.033"
D	1.00"	--

## Case Outline: (SMS)



DIM	MIN	MAX
A	0.140"	0.155"
B	0.180"	0.230"
C	0.020"	0.030"
D	0.002"	--

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