



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
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## SHF1402 - SHF1406 and SHF1402SMS - SHF1406SMS

### DESIGNER'S DATA SHEET

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

SHF14

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

#### Package

\_\_\_ = Axial Leaded  
SMS = Surface Mount Square Tab

#### Voltage

02 = 200 V  
03 = 300 V  
04 = 400 V  
05 = 500 V  
06 = 600 V

4 AMP  
200-600 Volts  
30 nsec

### HYPER FAST RECTIFIER

#### Features:

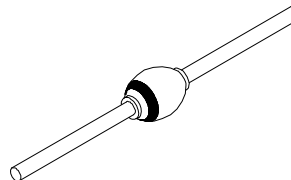
- Guaranteed High Temp. trr: 50 nsec Max (Axial) trr: 60nsec Max (SMS)
- Hyper Fast Recovery: 30 nsec Max.
- PIV to 600 Volts
- Void Free Construction
- Hermetically Sealed
- Low Reverse Leakage Current
- For High Efficiency Applications
- Replacement for 1N6626 Series where faster trr is required
- TX, TXV, and S-Level Screening Available<sup>2/</sup>

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SHF1402	$V_{RRM}$	200	Volts
	SHF1403		300	
	SHF1404	$V_{RWM}$	400	
	SHF1405		500	
	SHF1406	$V_R$	600	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 55^\circ\text{C}$ , $L=3/8''$ )		$I_o$	4	Amps
Surge Current (Single 8.3 ms Pulse, Half Sine Superimposed on $I_o$ , $T_A = 55^\circ\text{C}$ )		$I_{FSM}$	75	Amps
Repetitive Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 55^\circ\text{C}$ )		$I_{FRM}$	20	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance	Junction to Lead, $L = 3/8''$	$R_{\theta JL}$	20	$^\circ\text{C/W}$
	Junction to End	$R_{\theta JE}$	14	

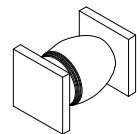
#### Notes:

<sup>1/</sup> For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.  
<sup>2/</sup> Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

Axial Leaded



SMS (Square)



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

DATA SHEET #: RH0023B

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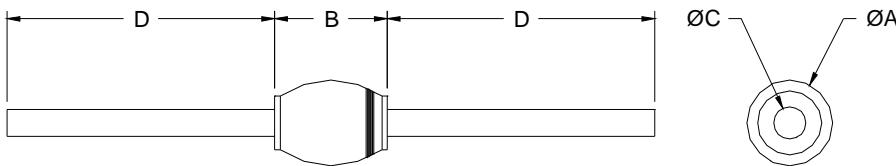
**Solid State Devices, Inc.**

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**SHF1402 - SHF1406  
 and  
 SHF1402SMS - SHF1406SMS**

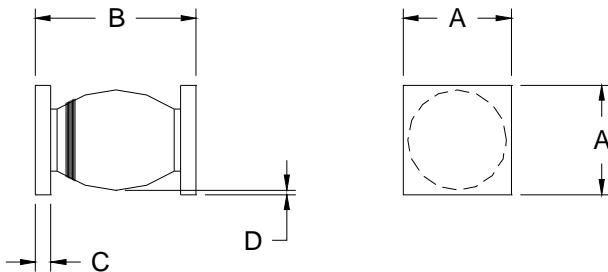
Electrical Characteristics	Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 3 \text{ Adc}$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ pulse)	$V_F$	1.5	Vdc
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 4 \text{ Adc}$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ pulse)	$V_F$	1.6	Vdc
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ pulse minimum)	$I_R$	10	$\mu\text{A}$
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 100^\circ\text{C}$ , 300 $\mu\text{s}$ pulse minimum)	$I_R$	1	mA
<b>Junction Capacitance</b> ( $V_R = 10 \text{ Vdc}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{MHz}$ )	$C_J$	50	pF
<b>Reverse Recovery Time</b> ( $I_F = 500 \text{ mA}$ , $I_R = 1\text{A}$ , $I_{RR} = 0.25\text{A}$ , $T_A = 25^\circ\text{C}$ ) ( $I_F = 500 \text{ mA}$ , $I_R = 1\text{A}$ , $I_{RR} = 0.25\text{A}$ , $T_A = 100^\circ\text{C}$ )	$t_{rr}$	30 60	nsec

**Case Outline: (Axial)**



DIMENSIONS		
DIM	MIN	MAX
A	.140"	.170"
B	.170"	.230"
C	.047"	.053"
D	1.00"	---

**Case Outline: (SMS)**



DIMENSIONS		
DIM	MIN	MAX
A	.172"	.180"
B	.220"	.270"
C	.022"	.028"
D	.002"	---

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