



Solid State Devices, Inc.

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DESIGNER'S DATA SHEET

Part Number / Ordering Information^{1/}

SHF14 _____

— L Screening^{2/} = None
— TX = TX Level
— TXV = TXV Level
— S = S Level
— L Package
— Axial Leaded
— SMS = Surface Mount Square Tab
Voltage
02 = 200 V
03 = 300 V
04 = 400 V
05 = 500 V
06 = 600 V

SHF1402 - SHF1406
and
SHF1402SMS - SHF1406SMS

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^{2/}

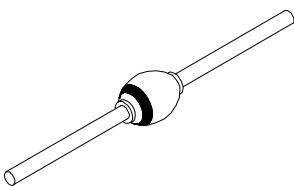
| Maximum Ratings | | Symbol | Value | Units |
|--|---|------------------------------------|---------------------------------|-------|
| Peak Repetitive Reverse and DC Blocking Voltage | SHF1402 SHF1403 SHF1404 SHF1405 SHF1406 | V_{RRM} V_{RWM} V_R | 200 300 400 500 600 | Volts |
| Average Rectified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

Notes:

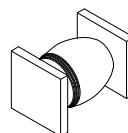
1/ For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.

2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

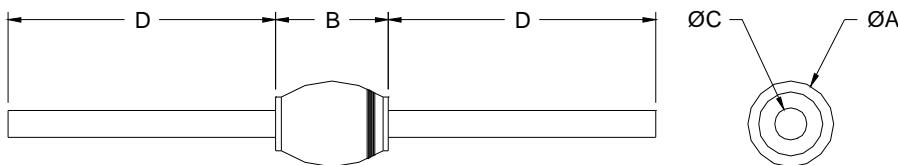
Axial Leaded



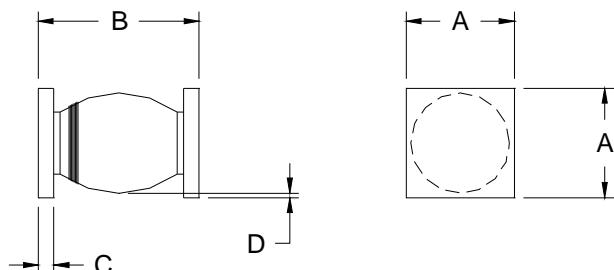
SMS (Square)



| Electrical Characteristics | Symbol | Max | Units |
|---|----------|----------|---------------|
| Instantaneous Forward Voltage Drop ($I_F = 3$ Adc, $T_A = 25^\circ\text{C}$, 300 μs pulse) | V_F | 1.5 | Vdc |
| Instantaneous Forward Voltage Drop ($I_F = 4$ Adc, $T_A = 25^\circ\text{C}$, 300 μs pulse) | V_F | 1.6 | Vdc |
| Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs pulse minimum) | I_R | 10 | μA |
| Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs pulse minimum) | I_R | 1 | mA |
| Junction Capacitance ($V_R = 10$ Vdc, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$) | C_J | 50 | pF |
| Reverse Recovery Time ($I_F = 500$ mA, $I_R = 1$ A, $I_{RR} = 0.25$ A, $T_A = 25^\circ\text{C}$) ($I_F = 500$ mA, $I_R = 1$ A, $I_{RR} = 0.25$ 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" | --- |