

REVERSE RECOVERY IN **5 nsec** FLAT



SHF1101 - SHF1201 SERIES

1 Amp • 100 - 200 Volts • 5 nsec • Hyper Fast Recovery Rectifier

Solid State Devices, Inc. (SSDI) announces the fastest, most rugged rectifier diodes on the market, the SHF1101 - SHF1201 Series. These diodes are more reliable than the 1N6642 while matching its reverse recovery. They are also a smaller and faster replacement for the 1N5806. The SHF1101 - SHF1201 series is the perfect combination of high performance and high reliability in a small, light-weight package.

Features:

- Low forward voltage drop
- Low reverse leakage current
- Avalanche breakdown
- Hermetically sealed
- Solid silver leads
- For high efficiency applications
- Void free glass ceramic chip construction
- Excellent liquid-to-liquid thermal shock performance
- Available in axial & square tab versions
- TX, TXV, and S-level screening available.
- Replacement for 1N6638, 1N6642 and 1N5806
- High temperature metallurgical class I bond



Solid State Devices, Inc.
ISO 9001:2008 and AS9100:2004 Rev. B
(562) 404-4474 • www.ssdi-power.com

Contact us today for more information about this product or any of SSDI's broad range of high reliability products and services.



Solid State Devices, Inc.

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SHF1101 thru SHF1201 SERIES

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SHF1 - - -

L Screening ^{2/}
 — = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

L Package Type
 — = Axial Leaded
 SMS = Surface Mount Square Tab

L Device Type (VRWM)
 101 = 100 V
 151 = 150 V
 201 = 200 V

**1 AMP
100 – 200 VOLTS**

**5 nsec
HYPER FAST
RECOVERY RECTIFIER**

FEATURES:

- Hyper fast reverse recovery time: 5 ns Max
- Low forward voltage drop
- Low reverse leakage current
- Avalanche breakdown
- Void free glass ceramic chip construction
- Hermetically sealed
- Solid silver leads
- Excellent liquid-to-liquid thermal shock performance
- Available in axial & square tab versions
- For high efficiency applications
- TX, TXV, and S-Level screening available^{2/}
- Replacement for 1N6638, 1N6642 and 1N5806
- High temperature metallurgical class I bond

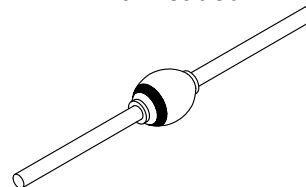
MAXIMUM RATINGS ^{3/}

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage DC Blocking Voltage	SHF1101	V_{RWM} V_R	100	Volts
	SHF1151		150	
	SHF1201		200	
Average Rectified Forward Current (Resistive load, 60 Hz, sine wave, $T_c = 25^\circ C$)		I_o	1	Amp
Peak Surge Current (8.3 msec pulse, half sine wave superimposed on I_o , allow junction to reach equilibrium between pulses, $T_c = 25^\circ C$)		I_{FSM}	20	Amps
Operating & Storage Temperature		T_{OP} and T_{STG}	-65 to +175	$^\circ C$
Thermal Resistance SMS- Junction to End Tab Axial- Junction to Lead @ .375"		$R_{\theta JE}$ $R_{\theta JL}$	20 80	$^\circ C/W$

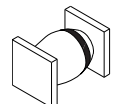
NOTES:

- 1/ For ordering information, price, and availability - contact factory.
- 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
- 3/ Unless otherwise specified, all electrical characteristics @25°C.

Axial Leaded



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 #: RC0160A

DOC



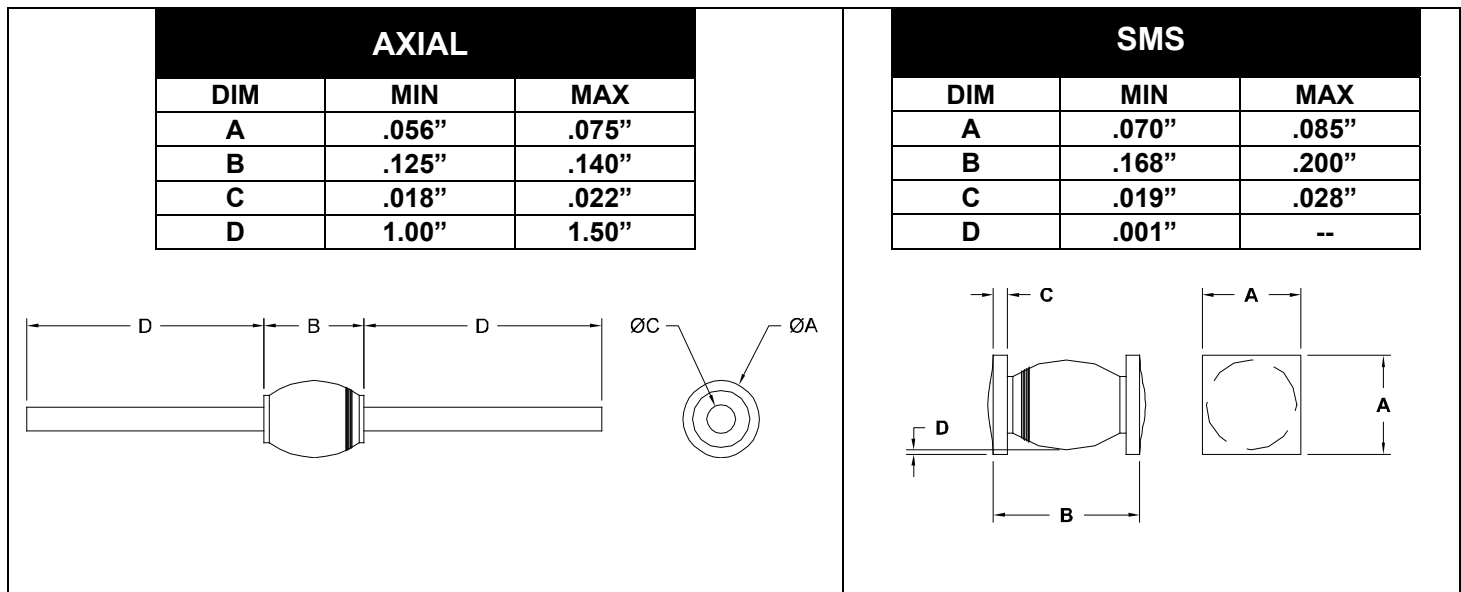
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**SHF1101 thru SHF1201
 SERIES**

ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS	SYMBOL	LIMIT	UNIT
Maximum Instantaneous Forward Voltage Drop (Pulsed, T _A = 25°C)	@ I _F = 1mA	V _{F1}	0.525
	@ I _F = 10mA	V _{F2}	0.650
	@ I _F = 100mA	V _{F3}	0.800
	@ I _F = 200mA	V _{F4}	0.850
	@ I _F = 500mA	V _{F5}	0.910
	@ I _F = 1A	V _{F6}	0.980
Maximum Instantaneous Forward Voltage Drop (Pulsed, T _A = 150°C)	@ I _F = 10mA	V _{F7}	0.500
	@ I _F = 100mA	V _{F8}	0.620
Maximum Instantaneous Forward Voltage Drop (Pulsed, T _A = -55°C)	@ I _F = 10mA	V _{F9}	0.810
	@ I _F = 100mA	V _{F10}	0.900
Minimum Breakdown Voltage I _R = 100 μA	SHF1101	BV _R	100
	SHF1151		150
	SHF1201		200
Maximum Reverse Leakage Current (300 μs Pulse Minimum , T _A = 25°C)	@ V _R = 20V	I _{R1}	80
	@ V _R = 75V	I _{R2}	120
	@ V _R = max rated	I _{R3}	750
Maximum Reverse Leakage Current (300 μs Pulse Minimum , T _A = 125°C)	@ V _R = 20V	I _{R4}	50
	@ V _R = 75V	I _{R5}	75
	@ V _R = max rated	I _{R6}	150
Maximum Junction Capacitance (T _A = 25°C , f = 1MHz) V _R = 0V	C _{J1}	6	pf
Maximum Junction Capacitance (T _A = 25°C , f = 1MHz) V _R = 1.5V	C _{J2}	5	pf
Maximum Junction Capacitance (T _A = 25°C , f = 1MHz) V _R = 10V	C _{J3}	4	pf
Maximum Reverse Recovery Time (I _F = 50 mA, I _R = 100 mA, I _{RR} = 25 mA)	t _{rr}	5	nsec
Maximum Forward Recovery Time (I _F = 50 mA)	t _{fr}	20	nsec



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