



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
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**SHF1304 thru SHF1308
 SHF1304SMS thru SHF1308SMS**

**3 AMP, 400 – 800 Volts
 40 - 50 nsec, Hyper Fast Rectifier**

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SHF130 6 - - -

L Processing = None
 or TX, TXV, S
L Package = Axial
 SMS = Surface Mount
L Lead Dia = .050" standard
 A = .040" special order
L Voltage 4 = 400 V
 6 = 600 V
 8 = 800 V

Axial Leaded **Surface Mount (SMS)**

- Features:**
- Hyper Fast Recovery: 40 - 50 nsec
 - PIV to 800 Volts
 - Hermetically Sealed
 - Void Free Construction
 - For High Efficiency Applications
 - Low Reverse Leakage
 - Single Chip Construction
 - Replaces UES 1304 Types

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SHF1304	V_{RRM}	400	Volts
	SHF1306		600	
	SHF1308	V_R	800	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$)		I_o	3.0	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_o , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$)		I_{FSM}	75	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 Tab	$R_{\theta JE}$	14	

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

DATA SHEET #: RH0101C

DOC



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Electrical Characteristics	Part Type	Symbol	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, pulsed) $I_F = 3\text{A}$	SHF1304 - 1306 SHF1308	V_{F1}	1.35 1.45	Volts
Instantaneous Forward Voltage Drop ($T_A = -55^\circ\text{C}$, pulsed) $I_F = 3\text{A}$	SHF1304 - 1306 SHF1308	V_{F2}	1.5 1.6	Volts
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, pulsed)	All	I_{R1}	10	μA
Reverse Leakage Current (Rated V_R , pulsed)	SHF1304 - 1306 @ 125°C SHF1308 @ 100°C	I_{R2}	200 200	μA
Junction Capacitance ($V_R = 10\text{Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	All	C_J	50	pF
Reverse Recovery Time ($I_F = 500\text{mA}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$)	SHF1304 - 1306 SHF1308	t_{rr}	40 ^L 50	nsec

Notes: ^L t_{rr} on SHF1304 - 1306, 100 ns typical @ 100°C

Case Outline: (Axial)

DIMENSIONS SHF1304 & SHF1306		
DIM	MIN	MAX
A	0.140"	0.170"
B	—	0.200"
C	0.047"	0.053"
D	1.00"	—

DIMENSIONS SHF1308		
DIM	MIN	MAX
A	0.140"	0.170"
B	—	0.215"
C	0.045"	0.053"
D	1.00"	—

Case Outline: Surface Mount (SMS)

DIMENSIONS SHF1304 & SHF1306		
DIM	MIN	MAX
A	0.172"	0.180"
B	0.200"	0.250"
C	0.020"	0.035"
D	0.002"	—

DIMENSIONS SHF1308		
DIM	MIN	MAX
A	0.172"	0.180"
B	0.200"	0.265"
C	0.020"	0.035"
D	0.002"	—