

Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638 Phone: (562) 404-7855 * Fax: (562) 404-1773 ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

SHF1304 thru SHF1308 SHF1304SMS thru SHF1308SMS

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

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
- TX, TXV, and S-Level Screening Available^{2/}

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SHF1304 SHF1306 SHF1308	$ m V_{RRM}$ $ m V_{R}$	400 600 800	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T _A = 25°C)		Io	3.0	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on Io, Allow Junction to Reach Equilibrium Between Pulses, T _A = 25°C)		I_{FSM}	75	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +175	°C
	on to Lead, L = 3/8 " Junction to End Tab	$egin{array}{c} \mathbf{R}_{ heta \mathrm{JL}} \ \mathbf{R}_{ heta \mathrm{JE}} \end{array}$	20 14	°C/W

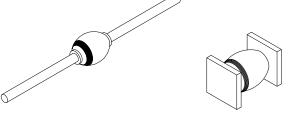
NOTES:

1/ For Ordering Information, Price, and Availability- Contact Factory.

 $\underline{2}\!/$ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

Axial Leaded

Surface Mount (SMS)





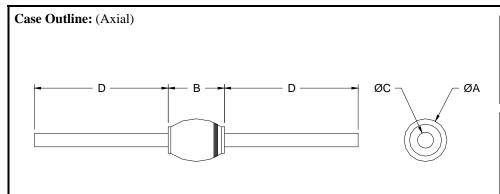
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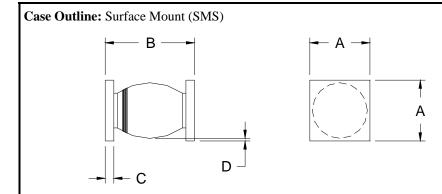
Electrical Characteristics	Part Type	Symbol	Max	Units
Instantaneous Forward Voltage Drop $(T_A = 25^{\circ}C, pulsed)$ $I_F = 3A$	SHF1304 - 1306 SHF1308	V_{F1}	1.35 1.45	Volts
Instantaneous Forward Voltage Drop $(T_A = -55^{\circ}C, pulsed) I_F = 3A$	SHF1304 - 1306 SHF1308	$\mathbf{V}_{\mathbf{F2}}$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

Notes: $\underline{1/}$ trr on SHF1304 - 1306, 100 ns typical @ 100 °C



DIMENSIONS SHF1304 & SHF1306			
DIM	MIN	MAX	
A	0.140"	0.170"	
В		0.200"	
С	0.047"	0.053"	
D	1.00"	_	

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



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

DIMENSIONS SHF1308			
DIM	MIN	MAX	
A	0.172"	0.180"	
В	0.200"	0.265"	
С	0.020"	0.035"	
D	0.002"		