



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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**SHF1100SM  
 thru  
 SHF1103SM**

**1 AMP  
 50–300 Volts  
 35 nsec  
 HYPER FAST RECTIFIER**

**DESIGNER'S DATA SHEET**

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

SHF11 \_ SM \_

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

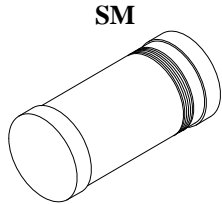
└─ Package  
                   SM = Surface Mount Round Tab

└─ Voltage  
                   00 = 50 V  
                   01 = 100 V  
                   02 = 200 V  
                   03 = 300 V

- Features:**
- Hyper Fast Recovery: 35 nsec Max.
  - PIV to 300 Volts
  - Hermetically Sealed Surface Mount Package
  - Void Free Construction
  - For High Efficiency Applications
  - Single Chip Construction
  - Replaces for UES1104 Types
  - TX, TXV, and S-Level Screening Available<sup>2/</sup>

Maximum Ratings		Symbol	Value	Units
<b>Peak Repetitive Reverse and DC Blocking Voltage</b>	SHF1100SM	$V_{RRM}$	50	Volts
	SHF1101SM	$V_{RWM}$	100	
	SHF1102SM	$V_R$	200	
	SHF1103SM	$V_R$	300	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 Hz, Sine Wave, $T_A = 25^\circ\text{C}$ )		$I_o$	1	Amps
<b>Surge Current</b> (8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ , Allow Junction to Reach Equilibrium between Pulses, $T_A = 25^\circ\text{C}$ )		$I_{FSM}$	20	Amps
<b>Operating &amp; Storage Temperature</b>		Top & Tstg	-65 to +175	°C
<b>Maximum Thermal Resistance</b> Junction to End Tab		$R_{\theta JE}$	28	°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.





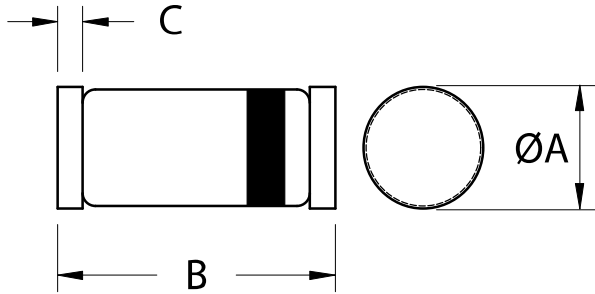
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Electrical Characteristics	Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1 \text{ Adc}$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ pulse)	$V_F$	1.35	Vdc
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 5 \text{ Adc}$ , $T_A = -55^\circ\text{C}$ , 300 $\mu\text{s}$ pulse)	$V_F$	1.5	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> ( $V_R = 10 \text{ Vdc}$ , $T_A = 25^\circ\text{C}$ , $f = 1 \text{ MHz}$ )	$C_J$	20	pF
<b>Reverse Recovery Time</b> ( $I_F = 500 \text{ mA}$ , $I_R = 1 \text{ A}$ , $I_{RR} = 0.25 \text{ A}$ , $T_A = 25^\circ\text{C}$ )	$t_{rr}$	35	nsec

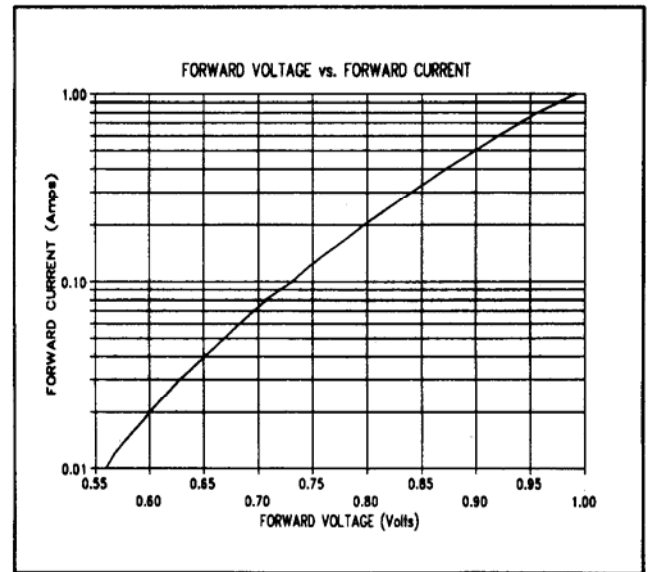
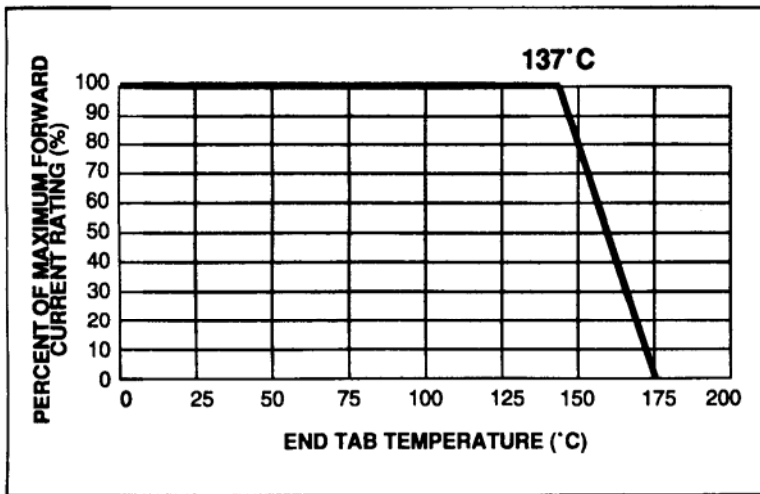
Case Outline: Surface Mount Round Tab



DIMENSIONS		
DIM	MIN	MAX
A	.095"	.105"
B	.190"	.210"
C	.005"	.025"

**TYPICAL OPERATING CURVES**

$T_A = 25^\circ\text{C}$  Unless otherwise specified



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

DATA SHEET #: RH0115C

DOC