



PRELIMINARY

Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

SRM3HF thru SRM4HF Series

**20 AMP
 300-400 Volts
 40 nsec
 Hyper Fast Rectifier**

Designer's Data Sheet

Part Number / Ordering Information^{1/}

SRM HF

Screening^{2/}

— = Not Screened
 TX = TX Level
 TXV = TXV
 S = S Level

Package Type

— = Axial
 SMS = Surface Mount Square Tab
 BTR = Button

Voltage

3 = 300 V
 4 = 400 V

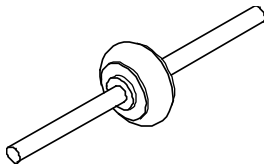
- Features:**
- Replaces DO-4 and DO-5 (1N5816, 1N6306)
 - High Current/ Voltage Version of 1N5811
 - Hyper Fast Recovery
 - PIV to 400 Volts
 - Low Reverse Leakage Current
 - Hermetically Sealed Void-Free Construction^{3/}
 - Monolithic Single Chip Construction
 - High Surge Rating
 - Low Thermal Resistance
 - Available in Surface Mount Versions
 - Equivalent to 1N6688-1N6689
 - TX, TXV, and Space Level Screening Available

MAXIMUM RATINGS		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SRM3HF	V_{RRM}	300	Volts
	SRM4HF	V_{RWM} V_R	400	
Average Rectified Forward Current (Resistive Load, 60Hz Sine Wave, $T_A=25^\circ\text{C}$)		I_o	20	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}	475	Amps
Operating and Storage Temperature		T_{op} & T_{stg}	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance (Axial – Junction to Lead, $L=3/8"$) (SMS – Junction to End Tab) (Button – Junction to Case)	Axial ()	$R_{\theta JL}$	3.0	$^\circ\text{C/W}$
	Square Tab (SMS)	$R_{\theta JE}$	2.5	
	Button (BTR)	$R_{\theta JC}$	1.0	

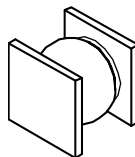
Notes:

- ^{1/} For ordering information, price, operating curves, and availability, contact factory.
^{2/} Modified MIL-PRF-19500 Screening Flow – Consult Factory.
^{3/} PIND testing not required on void free devices per MIL-PRF-19500.

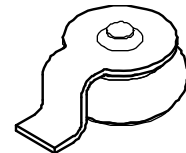
Axial



SMS



Button





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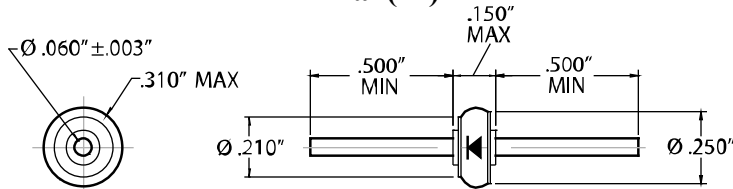
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**SRM3HF thru SRM4HF
Series**

ELECTRICAL CHARACTERISTICS		Symbol	Max	Unit
Instantaneous Forward Voltage Drop ($I_F = 20A_{dc}$, 500 μ sec Pulse, $T_A = 25^\circ C$)		V_{F1}	1.05	Vdc
Instantaneous Forward Voltage Drop ($I_F = 20A_{dc}$, 300 μ sec Pulse, $T_A = -65^\circ C$)		V_{F2}	1.2	Vdc
Reverse Leakage Current (Rated V_R , 300 μ sec Pulse Minimum, $T_A = 25^\circ C$)		I_{R1}	100	μA
Reverse Leakage Current (Rated V_R , 300 μ sec Pulse Minimum, $T_A = 100^\circ C$)		I_{R2}	10	mA
Junction Capacitance ($V_R = 10 V_{DC}$, $f = 1MHz$, $T_A = 25^\circ C$)		C_J	350	pF
Reverse Recovery Time ($I_F = 0.5A$, $I_R = 1.0 A$, $I_{RR} = 0.25A$, $T_A = 25^\circ C$)		t_{rr}	40	nsec

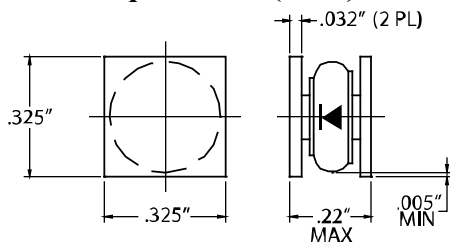
CASE OUTLINES:

Axial ()

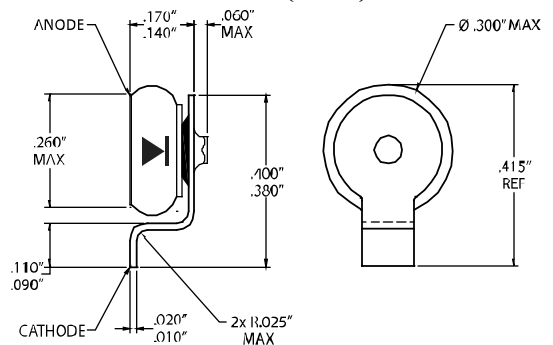


TOLERANCES
(UNLESS SPECIFIED)
 .XX ± .03"
 .XXX ± .010"

Square Tab (SMS)



Button (BTR)



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

DATA SHEET #: RH0165F

DOC