



**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

**SRM6UF thru SRM12UF Series**

**20 AMP  
 Ultra Fast Rectifier  
 600-1200 Volts  
 75 nsec**

- Features:**
- Replaces DO-4 and DO-5
  - Ultra Fast Recovery
  - PIV to 1200 Volts
  - Low Reverse Leakage Current
  - Hermetically Sealed Void-Free Construction<sup>3/</sup>
  - Monolithic Single Chip Construction
  - High Surge Rating
  - Low Thermal Resistance
  - Equivalent to 1N6690-1N6693
  - TX, TXV, and Space Level Screening Available

**Designer's Data Sheet**

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

SRM \_\_\_ UF

Screening<sup>2/</sup>      \_\_\_ = Not Screened  
 TX = TX Level  
 TXV = TXV  
 S = S Level

Package Type  
 \_\_\_ = Axial  
 SMS = Surface Mount Square Tab  
 BTR = Button

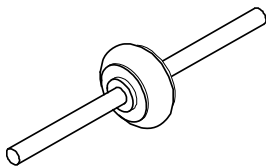
Voltage    6 = 600 V  
               8 = 800 V  
               10 = 1000V  
               12 = 1200V

MAXIMUM RATINGS		Symbol	Value	Units
<b>Peak Repetitive Reverse Voltage and DC Blocking Voltage</b>	SRM6UF	$V_{RRM}$ $V_{RWM}$ $V_R$	600	Volts
	SRM8UF		800	
	SRM10UF		1000	
	SRM12UF		1200	
<b>Average Rectified Forward Current</b> (Resistive Load, 60Hz Sine Wave, Axial $T_c \leq 55^\circ\text{C}$ ; SMS/BTR $T_c \leq 100^\circ\text{C}$ )		$I_o$	20	Amps
<b>Peak Surge Current</b> (8.3 ms Pulse, Half sine Wave Superimposed on $I_o$ , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$ )		$I_{FSM}$	375	Amps
<b>Operating and Storage Temperature</b>		$T_{op}$ & $T_{stg}$	-65 to +175	$^\circ\text{C}$
<b>Maximum Thermal Resistance</b> (Axial – Junction to Lead, $L=1/8"$ ) (SMS – Junction to End Tab) (Button – Junction to Case)	Axial ( )	$R_{\theta JL}$	3.4	$^\circ\text{C/W}$
	Square Tab (SMS)	$R_{\theta JE}$	2.5	
	Button (BTR)	$R_{\theta JC}$	1.0	

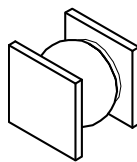
**Notes:**

- 1/** For ordering information, price, operating curves, and availability, contact factory.  
**2/** Screening based on MIL-PRF-19500. Screening flows available on request.  
**3/** PIND testing not required on void free devices per MIL-PRF-19500.

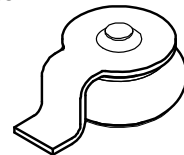
Axial



SMS



Button





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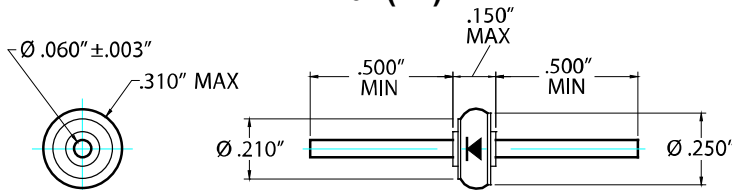
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Series**

ELECTRICAL CHARACTERISTICS		Symbol	Max	Unit
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 20A_{dc}$ , 300-500 $\mu\text{sec}$ Pulse, $T_A = 25^\circ\text{C}$ )	SRM6UF & SRM8UF SRM10UF & SRM12UF	$V_{F1}$	1.9 2.25	<b>Vdc</b>
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 20A_{dc}$ , 300-500 $\mu\text{sec}$ Pulse, $T_A = -55^\circ\text{C}$ )	SRM6UF & SRM8UF SRM10UF & SRM12UF	$V_{F2}$	2.2 2.5	<b>Vdc</b>
<b>Reverse Leakage Current</b> (Rated $V_R$ , 300 $\mu\text{sec}$ Pulse Minimum, $T_A = 25^\circ\text{C}$ )		$I_{R1}$	10	<b><math>\mu\text{A}</math></b>
<b>Reverse Leakage Current</b> (Rated $V_R$ , 300 $\mu\text{sec}$ Pulse Minimum, $T_A = 100^\circ\text{C}$ )		$I_{R2}$	2.0	<b>mA</b>
<b>Junction Capacitance</b> ( $V_R = 10 V_{DC}$ , $f = 1\text{MHz}$ , $T_A = 25^\circ\text{C}$ )		$C_J$	250	<b>pF</b>
<b>Reverse Recovery Time</b> ( $I_F = 0.5A$ , $I_R = 1.0 A$ , $I_{RR} = 0.25A$ , $T_A = 25^\circ\text{C}$ )	SRM6UF & SRM8UF SRM10UF & SRM12UF	$t_{rr}$	75 85	<b>nsec</b>

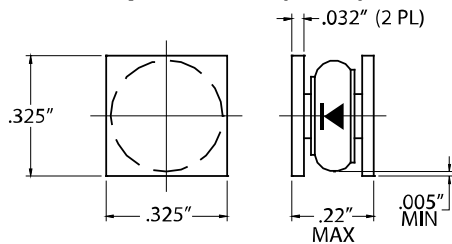
**CASE OUTLINES:**

**Axial ( )**

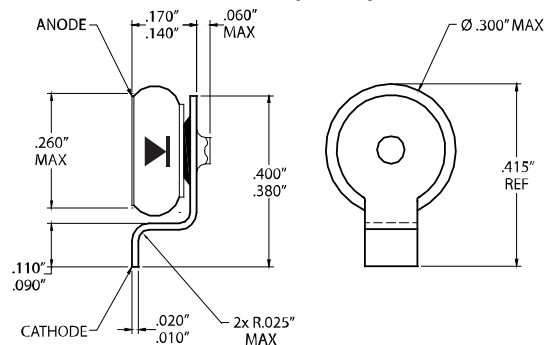


TOLERANCES  
(UNLESS SPECIFIED)  
 .XX  $\pm$  .03"  
 .XXX  $\pm$  .010"

**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 #: RU0129F**

**DOC**