



**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

**SRE10UF-SRE15UF  
 and  
 SRE10UFSMS-SRE15UFSMS**

**DESIGNER'S DATA SHEET**

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

SRE \_\_ UF \_\_ \_\_

L Screening<sup>2/</sup> = None  
           TX = TX Level  
           TXV = TXV Level  
           S = S Level  
  
 L Package  
       \_\_ = Axial  
       SMS = Surface Mount Square Tab  
  
 L Recovery Time  
       UF = Ultra Fast  
  
 L Voltage  
       10 = 1000 V  
       11 = 1100 V  
       12 = 1200 V  
       13 = 1300 V  
       14 = 1400 V  
       15 = 1500 V

**0.75 AMP  
 1000 – 1500 Volts  
 50-70 nsec**

**HIGH REVERSE ENERGY  
 ABSORPTION CAPABILITY  
 ULTRA FAST RECTIFIER**

**Features:**

- Ultra Fast Recovery: 50-70 nsec Max.
- High Reverse Energy Absorption Capability
- Single Chip Construction
- PIV to 1500 Volts
- Low Reverse Leakage Current
- Available in Surface Mount versions
- Metallurgically Bonded
- TX, TXV, and S-Level Screening Available<sup>2/</sup>

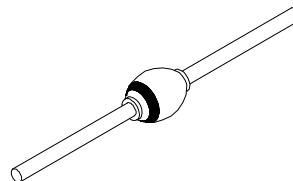
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SRE10UF	$V_{RRM}$	1000	Volts
	SRE11UF		1100	
	SRE12UF	$V_{RWM}$	1200	
	SRE13UF		1300	
	SRE14UF	$V_R$	1400	
	SRE15UF		1500	
Reverse Energy Voltage Surge (Discharge Voltage $V_s$ from 0.0022 $\mu$ F capacitor)		$V_s$	200V GREATER THAN RATED $V_R$	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$ )		$I_o$	0.75	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$ )		$I_{FSM}$	20	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance	Junction to Lead, L = 3/8 "	$R_{\theta JL}$	40	$^\circ\text{C/W}$
	Junction to End Tab	$R_{\theta JE}$	35	

Notes:

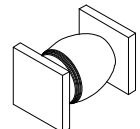
1/ For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.

2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

**Axial Leaded**



**SMS (Square)**



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

**DATA SHEET #: RU0121D**

**DOC**



**Solid State Devices, Inc.**

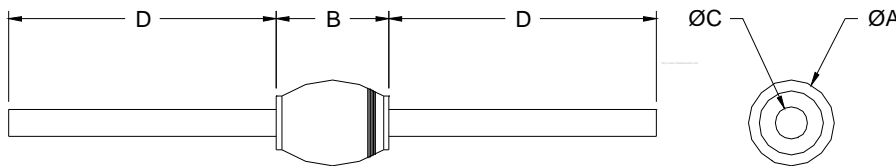
14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
 ssdi@ssdi-power.com \* www.ssdi-power.com

**SRE10UF  
 thru  
 SRE15UF**

Electrical Characteristics	Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 0.75 \text{ Adc}$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{s}$ pulse)	$V_F$	2.5	Vdc
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 3 \text{ Adc}$ , $T_A = -55^\circ\text{C}$ , 300 $\mu\text{s}$ pulse)	$V_F$	2.7	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)	$I_R$	500	$\mu\text{A}$
<b>Junction Capacitance</b> ( $V_R = 10 \text{ Vdc}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{MHz}$ )	$C_J$	50	pF
<b>Reverse Recovery Time</b> ( $I_F = 500 \text{ mA}$ , $I_R = 1\text{A}$ , $I_{RR} = 0.25\text{A}$ , $T_A = 25^\circ\text{C}$ )	$t_{rr}$	50 60 70	nsec

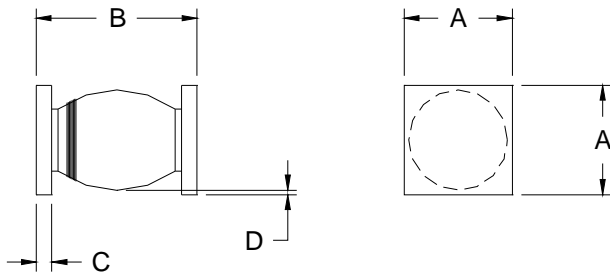
SRE10UF-11UF  
 SRE12UF-14UF  
 SRE15UF

**Case Outline: (Axial)**



DIMENSIONS		
DIM	MIN	MAX
A	---	.160"
B	.130"	.190"
C	.027"	.033"
D	1.00"	---

**Case Outline: (SMS)**



DIMENSIONS		
DIM	MIN	MAX
A	.160"	.180"
B	.180"	.240"
C	.022"	.028"
D	.002"	---

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

**DATA SHEET #: RU0121D**

**DOC**