



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

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SRE _ UF _ _

Screening^{2/} = None
 TX = TX Level
 TXV = TXV Level
 S = S Level

Package
 _ = Axial
 SMS = Surface Mount Square Tab

Recovery Time
 UF = Ultra Fast

Voltage
 10 = 1000 V
 11 = 1100 V
 12 = 1200 V
 13 = 1300 V
 14 = 1400 V
 15 = 1500 V

SRE10UF-SRE15UF and SRE10UFSMS-SRE15UFSMS

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^{2/}

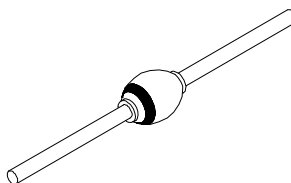
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SRE10UF	V_{RRM}	1000	Volts
	SRE11UF		1100	
	SRE12UF	V_{RWM}	1200	
	SRE13UF		1300	
	SRE14UF	V_R	1400	
	SRE15UF		1500	
Reverse Energy Voltage Surge (Discharge Voltage V_s from 0.0022 μ F capacitor)		V_s	200V GREATER THAN 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:

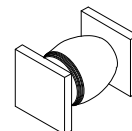
1/ For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.

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



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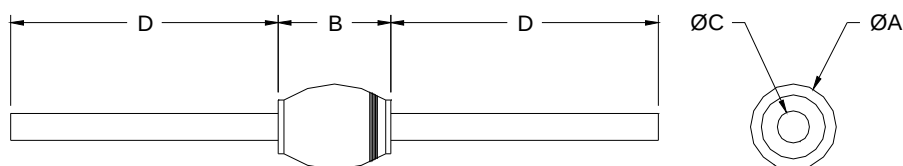
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SRE10UF thru SRE15UF

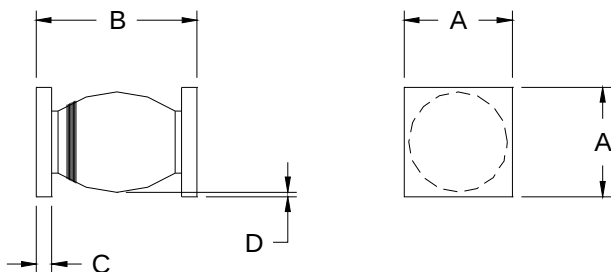
Electrical Characteristics		Symbol	Max	Units
Instantaneous Forward Voltage Drop ($I_F = 0.75 \text{ Adc}$, $T_A = 25^\circ\text{C}$, 300 μs pulse)		V_F	2.5	Vdc
Instantaneous Forward Voltage Drop ($I_F = 3 \text{ Adc}$, $T_A = -55^\circ\text{C}$, 300 μs pulse)		V_F	2.7	Vdc
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs pulse minimum)		I_R	10	μA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs pulse minimum)		I_R	500	μA
Junction Capacitance ($V_R = 10 \text{ Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)		C_J	50	pF
Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$, $T_A = 25^\circ\text{C}$)	SRE10UF-11UF SRE12UF-14UF SRE15UF	t_{rr}	50 60 70	nsec

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"	---

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