



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/}

SDR95

L Screening ^{2/}
 = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

Package
S1 = SMD1

Family/Voltage
3 = 300V
4 = 400V
5 = 500V

**SDR953S1
thru
SDR955S1**

**50 AMP
HYPERFAST RECTIFIER
300 - 500 VOLTS
35 nsec**

FEATURES:

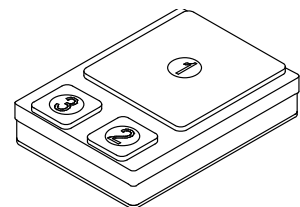
- Hyperfast Recovery: 35 nsec Maximum
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Surface Mount Package
- Gold Eutectic Die Attach Available
- Ultrasonic Aluminum Wire Bonds
- TX, TXV, or Space Level Screening Available

Maximum Ratings ^{4/}	Symbol	Value	Unit
Peak Repetitive Reverse and DC Blocking Voltage ^{3/}	SDR953 SDR954 SDR955 V_{RRM} V_{RWM} V_R	300 400 500	V
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$)	I_o	50	A
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)	I_{FSM}	450	A
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	0.8	$^\circ\text{C/W}$

NOTES:

- ^{1/} For ordering information, price, and availability, contact factory.
^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.
^{3/} Higher voltages available.
^{4/} Pads 2 and 3 externally connected together

SMD1



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

DATA SHEET #: RH0027D

DOCX



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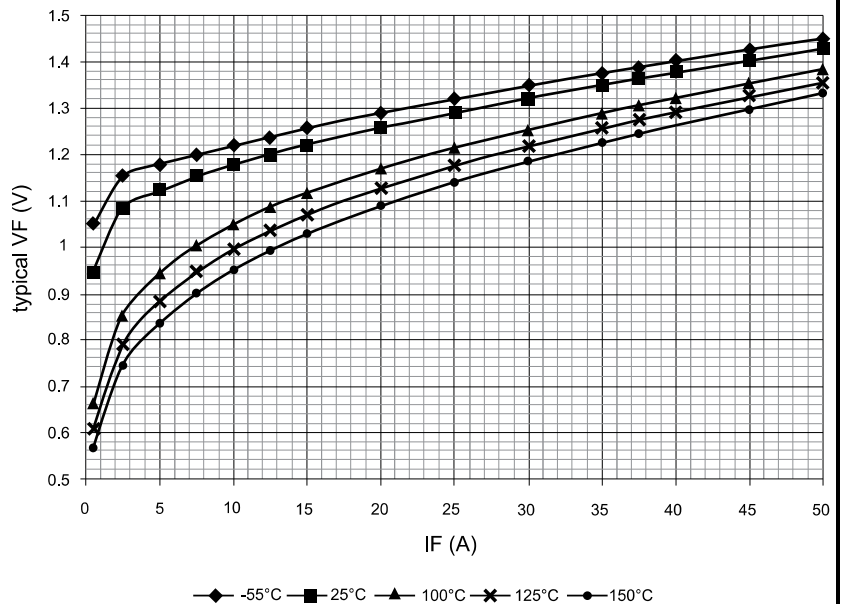
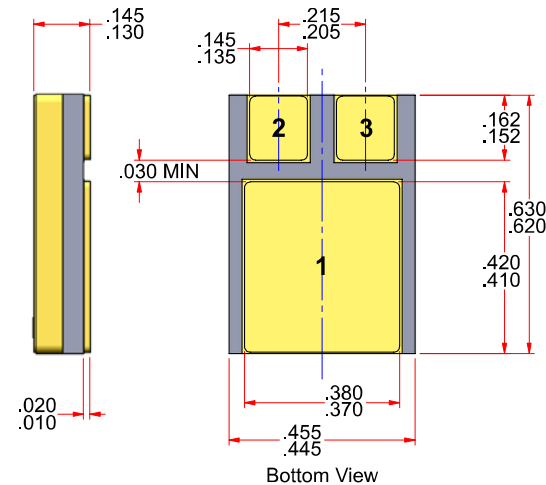
SDR953S1 thru SDR955S1

Electrical Characteristic ^{4/}	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage Drop ($I_F = 25\text{ A}$, $T_A = 25^\circ\text{C}$, pulse)	V_{F1}	1.15	1.3	V_{DC}
Instantaneous Forward Voltage Drop ($I_F = 50\text{ A}$, $T_A = 25^\circ\text{C}$, pulse)	V_{F2}	1.35	1.5	V_{DC}
Instantaneous Forward Voltage Drop ($I_F = 25\text{ A}$, $T_A = 100^\circ\text{C}$, pulse)	V_{F3}	1.10	1.25	V_{DC}
Instantaneous Forward Voltage Drop ($I_F = 25\text{ A}$, $T_A = -55^\circ\text{C}$, pulse)	V_{F4}	1.20	1.40	V_{DC}
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, pulse)	I_{R1}	20	200	μA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, pulse)	I_{R2}	2.5	10	mA
Junction Capacitance ($V_R = 10\text{ V}_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{ MHz}$)	C_J	100	250	pF
Reverse Recovery Time ($I_F = 500\text{ mA}$, $I_R = 1\text{ A}$, $I_{RR} = 250\text{ mA}$, $T_A = 25^\circ\text{C}$)	t_{RR}	30	35	nsec

CASE OUTLINE: SMD1

PIN 1: CATHODE

PIN 2 + 3: ANODE



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