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

SDR900 thru SDR905

30 Amp
ULTRAFAST RECTIFIER
50 – 500 Volt
50 nsec

Designer's Data Sheet

Part Number/Ordering Information [1/]

SDR90__ __ __

Screening [2/]
__ = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Package
__ = DO-5

Family/Voltage

0 = 50 V	3 = 300 V
1 = 100 V	4 = 400 V
2 = 200 V	5 = 500 V

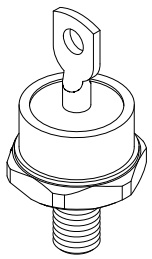
Features:

- **Ultrafast recovery: 50 nsec maximum**
- **Low reverse leakage**
- **Hermetically sealed**
- **High surge current**
- **Single chip construction**
- **Available in isolated package**
- **For high efficiency applications**
- **TX, TXV, and S-level screening available – Contact factory** [2/]

Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage **SDR900**	V_{RRM} V_{RWM} V_R	50	**V**
SDR901		100	
SDR902		200	
SDR903		300	
SDR904		400	
SDR905		500	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T_A = 25°C)	**Io**	30	**A**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T_A = 25°C)	I_{FSM}	350	**A**
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +175	**ºC**
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	1.0	**ºC/W**

Notes:
1/ For ordering information, price, operating curves, and availability - contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.

DO-5



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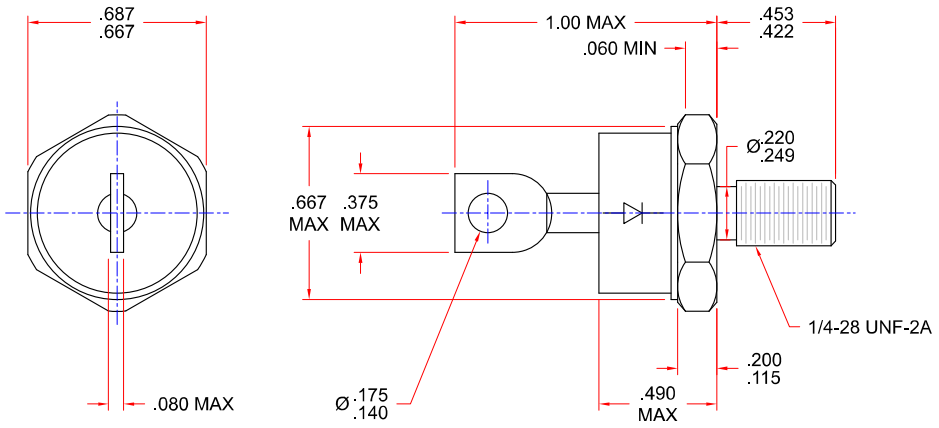
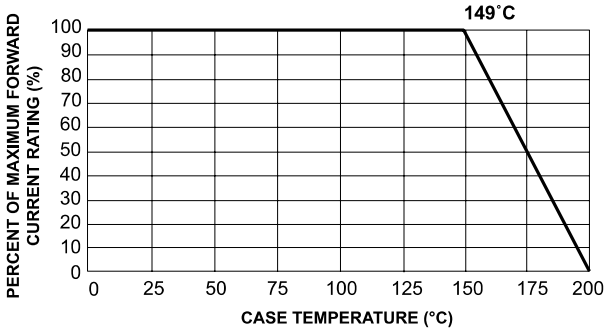
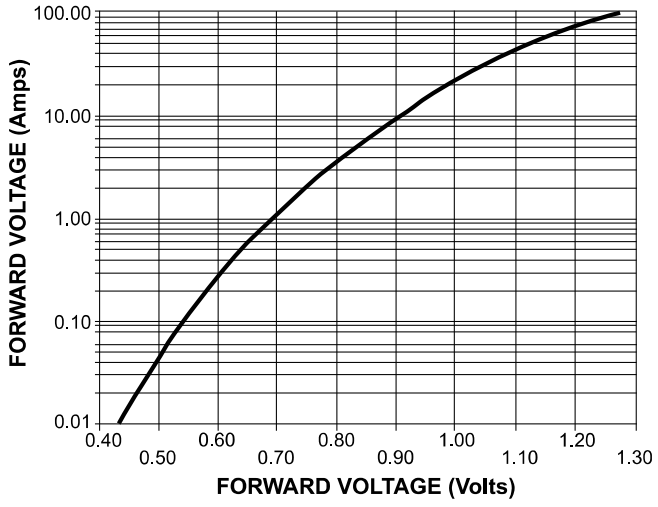
Electrical Characteristics		Symbol	Max	Units
Instantaneous Forward Voltage Drop (T_A = 25°C, 300 µs pulse)	I_F = 30 A_{DC}	V_{F1}	1.45	V_{DC}
Instantaneous Forward Voltage Drop (T_A = -55°C, 300 µs pulse)	I_F = 30 A_{DC}	V_{F2}	1.6	V_{DC}
Reverse Leakage Current (Rated V_R, T_A = 25°C, 300 µs pulse minimum)		I_{R1}	50	µA
Reverse Leakage Current (Rated V_R, T_A = 100°C, 300 µs pulse minimum)		I_{R2}	10	mA
Junction Capacitance (T_A = 25°C, f = 1 MHz)	V_R = 10 V_{DC}	C_J	250	pf
Reverse Recovery Time (I_F = 500 mA, I_R = 1 A, I_{RR} = 250 mA, T_A = 25°C)		t_{RR}	50	nsec

CASE OUTLINE: DO-5



TYPICAL OPERATING CURVES

TA=25°C Unless otherwise specified



FORWARD VOLTAGE vs. FORWARD CURRENT