Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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SDR1-12 thru SDR1-16 and SDR1-12SMS and SDR1-16SMS

Designer's Data Sheet

Part Number/Ordering Information [1/]

SDR1 ___ ___ ___

- **Screening** [2/]
  - __ = Not Screened
  - TX = TX Level
  - TXV = TXV
  - S = S Level
- **Package Type**
  - __ = Axial Leaded
  - SMS = Surface Mount Square Tab
- **Family**
  - -12 = 1200 V
  - -14 = 1400 V
  - -16 = 1600 V

1.0 AMP
1200 – 1600 VOLTS
70 nsec ULTRA FAST RECTIFIER

FEATURES:

- **Ultra Fast Recovery: 70 ns Max @ 25°C** [4/]
- **Single Chip Construction**
- **PIV to 1600 Volts**
- **Low Reverse Leakage Current**
- **Hermetically Sealed**
- **For High Efficiency Applications**
- **Available in Axial and Surface Mount Versions**
- **Metallurgically Bonded**
- **TX, TXV, and S-Level Screening Available** [2/]
- **Hyper Fast Versions available**

MAXIMUM RATINGS [3/]

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SDR1-12 and SDR1-12SMS SDR1-14 and SDR1-14SMS SDR1-16 and SDR1-16SMS	V_{RRM} V_{RWM} V_R	1200 1400 1600	Volts
Rectified Forward Forward Current (Resistive Load, 60 Hz, Sine Wave, T_A = 25°C)		I_O	1	Amp
Peak Surge Current (8.3 msec Pulse, Half Sine Wave Superimposed on Io, allow junction to reach equilibrium between pulses, T_A = 25°C)		I_{FSM}	25	Amps
Operating & Storage Temperature		T_{OP} and T_{STG}	-65 to +175	°C
Thermal Resistance, Junction to Lead, L = 3/8" (Axial) Junction to End Tab (SMS)		$R_{\theta JL}$ $R_{\theta JE}$	35 18	°C/W

NOTES:

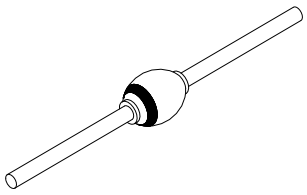
1/ For Ordering Information, Price, and Availability- Contact Factory.

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

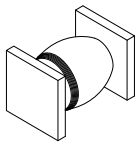
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.

4/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp, I_{RR} to .25 Amp.

Axial Leaded



SMS



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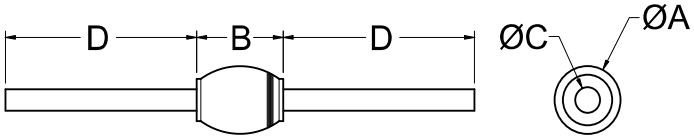
ELECTRICAL CHARACTERISTICS [3/]

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop (I_F = 1Adc, 300- 500 µs Pulse, T_A = 25°C)	V_{F1}	2.90	Vdc
Instantaneous Forward Voltage Drop (I_F = 1Adc, 300- 500 µs Pulse, T_A = -55°C)	V_{F2}	3.60	Vdc
Maximum Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 25°C)	I_{R1}	5	µA
Maximum Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 100°C)	I_{R2}	.5	mA
Junction Capacitance (VR = 10Vdc, T_A = 25°C , f = 1MHz)	C_J	20	pf
Maximum Reverse Recovery Time [4/]	t_{rr}	70	ns

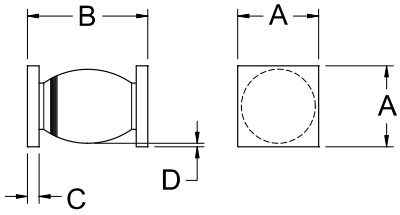
Axial Leaded Case Outline [5/]:

DIMENSIONS		
DIM.	MIN.	MAX.
A	---	.150”
B	---	.190”
C	.027”	.033”
D	.95”	---



Square Tab Surface Mount Case Outline [5/]:

DIMENSIONS		
DIM.	MIN.	MAX.
A	.134”	.153”
B	.200”	.280”
C	.022”	.028”
D	.002”	---



NOTES:

1/ For Ordering Information, Price, and Availability- Contact Factory.
2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.
4/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp, I_{RR} to .25 Amp.
5/ For information on operating curves, contact factory.