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

SDR12 Series

12 AMPS
200 - 1000 VOLTS
5 μsec
STANDARD RECOVERY RECTIFIER

Designer's Data Sheet

Part Number/Ordering Information [1/]

SDR12 ___ ___ ___

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

Package Type
___ = Axial
SMS = Surface Mount Square Tab

Family/Voltage
D = 200 V
G = 400V
J = 600 V
K = 800 V
M = 1000 V

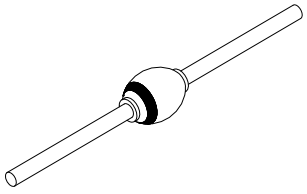
FEATURES:
- **Standard Recovery: 5 μsec maximum**
- **PIV up to 800 Volts**
- **High Current Operation up to 12 A**
- **Hermetically Sealed**
- **Single Chip Construction**
- **Low Thermal Resistance**
- **TX, TXV, and Space Level Screening Available** [2/]
- **Fast and Ultrafast Recovery Versions Available. Contact Factory.**

MAXIMUM RATINGS		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	**SDR12D** **SDR12G** **SDR12J** **SDR12K** **SDR12M**	V_{RRM} V_{RWM} V_R	200 400 600 800 1000	**Volts**
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A \leq 55^oC$)		I_O	12	**Amps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, Superimposed on I_O, allow junction to reach equilibrium between pulses, $T_A = 25^oC$)		I_{FSM}	150	**Amps**
Operating and Storage Temperature		T_{OP} & T_{stg}	-65 to +175	^oC
Maximum Thermal Resistance Junction to Lead, L = 0.125" (Axial Lead) Junction to End Tab (Surface Mount)		$R_{\theta JL}$ $R_{\theta JE}$	6 4	$^oC/W$

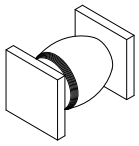
1/ For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

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

Axial



Surface Mount Square Tab (SMS)

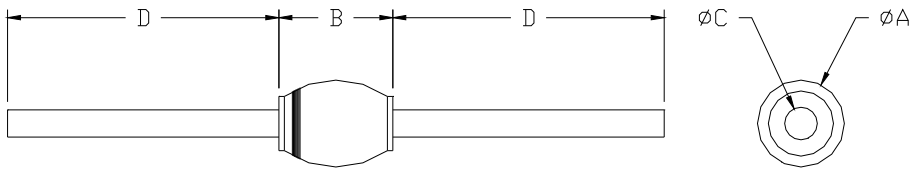


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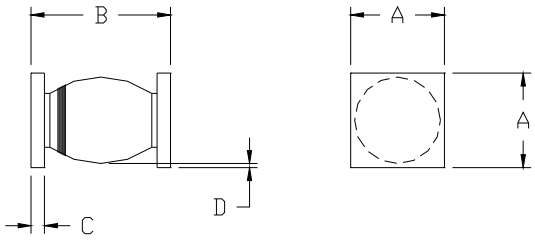
ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
Instantaneous Forward Voltage Drop (I_F = 12 Amps, T_A = 25°C, 300µsec Pulse)	T_A = 25°C T_A = -55°C	V_{F1} V_{F2}	— —	1.30 1.50	**Volts** **Volts**
Reverse Leakage Current (At Rated V_R, 300µsec pulse minimum)	T_A = 25°C T_A = 100°C	I_{R1} I_{R2}	—- —	5.0 200	**µA** **µA**
Junction Capacitance (V_R = 10 V_{DC}, T_A = 25°C, f = 1 MHz)		C_J	—	80	**pF**
Reverse Recovery Time (I_F = 500 mA, I_R = 1 A, I_{RR} = 250 mA, T_A = 25°C)		t_{rr}	—	5	**µs**

Case Outline: (Axial)



DIM	MIN	MAX
A	—	0.190”
B	0.140”	0.180”
C	0.057”	0.063”
D	0.500”	—

Case Outline: (SMS)



DIM	MIN	MAX
A	0.195”	0.210”
B	0.190”	0.230”
C	0.020”	0.030”
D	0.002”	—

Note: Dimensions prior to soldering.

NOTES:
Consult manufacturing for operating curves.