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

SDR1ASM & SMS thru SDR1MSM & SMS

1.0 AMPS
50 ─ 1000 VOLTS
50 – 70 nsec ULTRA FAST RECTIFIER

Designer's Data Sheet

Part Number/Ordering Information [1/]

SDR1 ___ ___ ___

Screening [2/]
__ = Not Screened
TX = TX Level
TXV = TXV
S = S Level (for SM, use –S)

Package Type
SM = Surface Mount Round Tab
SMS = Surface Mount Square Tab

Voltage

A = 50 V	J = 600 V
B = 100 V	K = 800 V
D = 200 V	M = 1000 V
G = 400 V	

FEATURES:

- **Ultra Fast Recovery: 50-70 ns Max @ 25ºC** [4/]
  80-120 ns Max @ 100ºC [4/]
- **Single Chip Construction**
- **PIV to 1000 Volts (1200V Version available)**
- **Low Reverse Leakage Current**
- **Hermetically Sealed**
- **For High Efficiency Applications**
- **Available in Round and Square Tab Versions**
- **Metallurgically Bonded**
  TX, TXV, and S-Level Screening Available [2/]
- **Hyper Fast Version available**

MAXIMUM RATINGS [3/]

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SDR1A ..	V_{RRM} V_{RWM} V_R	50	Volts
	SDR1B ..		100	
	SDR1D ..		200	
	SDR1G ..		400	
	SDR1J ..		600	
	SDR1K ..		800	
	SDR1M ..		1000	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T_A = 25ºC)		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 = 25ºC)		I_{FSM}	25	Amps
Operating & Storage Temperature	SM	T_{OP} and T_{STG}	-65 to +150	ºC
	SMS		-65 to +175	
Thermal Resistance, Junction to End Tab	SM & SMS	$R_{\theta JE}$	28	ºC/W

NOTES:

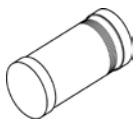
1/ For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

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

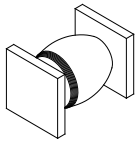
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.

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

SM (Round Tab)



SMS (Square Tab)



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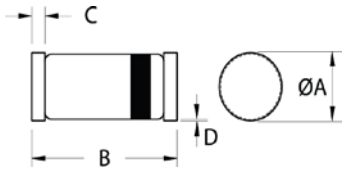
ELECTRICAL CHARACTERISTICS [3/]

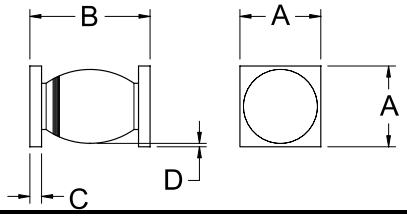
CHARACTERISTICS		SYMBOL	Maximum Limit Package SM	Package SMS	UNIT
Instantaneous Forward Voltage Drop (I_F = 1Adc, 300 µs Pulse, T_A = 25ºC)	SDR1A .. thru SDR1D ..	V_{F1}	1.3	0.96	Vdc
	SDR1G .. thru SDR1J ..		1.3	1.3	
	SDR1K .. thru SDR1M ..		2.5	1.9	
Instantaneous Forward Voltage Drop (I_F = 1Adc, 300 µs Pulse, T_A = -55ºC)	SDR1A .. thru SDR1D ..	V_{F2}	1.45	2.1	Vdc
	SDR1G .. thru SDR1J ..		1.45	2.1	
	SDR1K .. thru SDR1M ..		2.65	2.3	
Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 25ºC)	SDR1A .. thru SDR1D ..	I_{R1}	5		µA
	SDR1G .. thru SDR1J ..				
	SDR1K .. thru SDR1M ..				
Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 100ºC)	SDR1A .. thru SDR1D ..	I_{R2}	250		µA
	SDR1G .. thru SDR1J ..				
	SDR1K .. thru SDR1M ..				
Junction Capacitance (V_R = 10Vdc, T_A = 25ºC , f = 1MHz)	SDR1A .. thru SDR1D ..	C_J	15	40	pf
	SDR1G .. thru SDR1J ..		15	25	
	SDR1K .. thru SDR1M ..		10	15	
Reverse Recovery Time [4/]	SDR1A .. thru SDR1D ..	t_{rr}	50	50	ns
	SDR1G .. thru SDR1J ..		60	60	
	SDR1K .. thru SDR1M ..		70	70	

Round Tab Surface Mount (SM):



DIMENSIONS		
DIM.	MIN.	MAX.
A	.095”	.105”
B	.190”	.210”
C	.010”	.030”
D	---	---

Square Tab Surface Mount (SMS) :



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