



Solid State Devices, Inc.

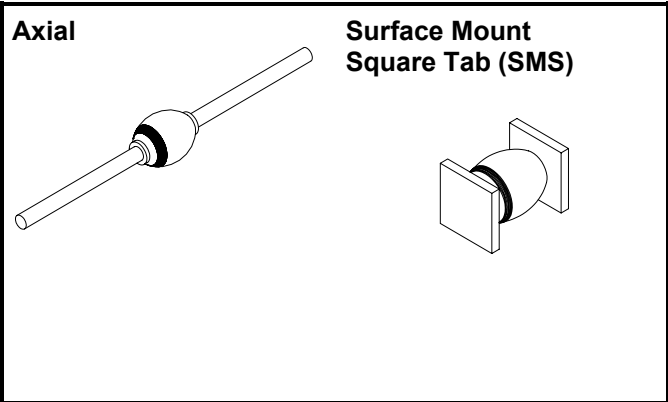
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**SDR2UF1.8 and SMS
SDR2UF2.0 and SMS**

**2 AMPS
1800 - 2000 VOLTS
70 nsec
ULTRA FAST RECOVERY
RECTIFIER**

Designer's Data Sheet

- FEATURES:**
- Ultra Fast Recovery: 70 nsec maximum
 - PIV to 2400 Volts
 - Low Reverse Leakage Current
 - Hermetically Sealed
 - Low Thermal Resistance
 - Low trr Change at High Temperature (typical: trr = 120ns @ 100°C)
 - TX, TXV, and Space Level Screening Available. Contact Factory.
 - Fast Recovery Versions Available. Contact Factory.
 - Single Junction Construction
 - Replaces 1N6512 and 1N6513 in many applications.



MAXIMUM RATINGS		Symbol	Value	Units
Reverse Voltage	SDR2UF1.8 & SMS SDR2UF2.0 & SMS	V_{RRM} V_{RWM} V_R	1800 2000	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A=25^\circ\text{C}$)		I_O	2	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, Superimposed on I_O , Allow Junction to Reach Equilibrium between Pulses, $T_A=25^\circ\text{C}$)		I_{FSM}	30	Amps
Temperature Range	Operating Storage	T_{OP} T_{stg}	-65 to +175 -65 to +200	$^\circ\text{C}$
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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
Breakdown Voltage ($I_R = 50 \mu A$, $T_A = 25^\circ C$, 300 μ sec minimum Pulse)	SDR2UF1.8 & SMS SDR2UF2.0 & SMS	BV_R	—	1800 2000	Volts
Instantaneous Forward Voltage Drop ($T_A = 25^\circ C$, 300 – 500 μ sec Pulse)	$I_{F1} = 1 A$ $I_{F2} = 2 A$	V_{F1} V_{F2}	—	3.60 4.20	Volts Volts
Instantaneous Forward Voltage Drop ($T_A = -55^\circ C$, 300 – 500 μ sec Pulse)	$I_{F3} = 1 A$ $I_{F4} = 2 A$	V_{F3} V_{F4}	—	3.80 4.60	Volts Volts
Reverse Leakage Current ($V_R = 85\%$ rated V_R , 300 μ sec minimum Pulse)	$T_A = 25^\circ C$ $T_A = 100^\circ C$	I_{R1} I_{R2}	—	1.5 200	μA μA
Junction Capacitance ($V_R = 50 V_{DC}$, $T_A = 25^\circ C$, $f = 1 MHz$)		C_J	—	20	pF
Reverse Recovery Time ($I_F = 500 mA$, $I_R = 1 A$, $I_{RR} = 250 mA$, $T_A = 25^\circ C$)		t_{rr}	—	70	ns

Case Outline: (Axial)

DIM	MIN	MAX
A	—	0.170"
B	0.240"	0.270"
C	0.045"	0.051"
D	1.00"	—

Case Outline: (SMS)

DIM	MIN	MAX
A	0.195"	0.205"
B	0.290"	0.330"
C	0.020"	0.030"
D	0.002"	—

NOTES:
 Consult manufacturing for operating curves.