



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
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SDR610

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SDR610

Screening ^{2/}

— = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

Polarity

CA = Common Anode
 CT = Common Cathode
 D = Doubler

6 AMP

FAST RECOVERY

SUBMINIATURE HALF-BRIDGE RECTIFIER

CENTERTAP / DOUBLER

1000 VOLTS

250 nsec typ

FEATURES:

- Subminiature Bridge with Surface Mount Tab
- Fast reverse recovery time: 400 ns max
- Hermetically sealed
- Void free construction eliminates die attach, wire bond, hermeticity and PIND issues related to TO-25X and stud mount packages
- Low reverse leakage current
- Smaller footprint than TO-257 package
- Easy to configure as center tap, doubler or parallel connection
- Alternative to 1N5420 and 1N5554
- TX, TXV, and S-level screening available ^{2/}

MAXIMUM RATINGS ^{3/}

	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage and DC Blocking Voltage	V_{RRM} V_{RWM} V_R	1000	Volts
Average Rectified Forward Current Resistive load, 60Hz, Sine wave, $T_C \leq 125^\circ\text{C}$	I_O	6 3	Amps
Peak Surge Current Non-repetitive, $t = 8.3$ ms half sine, per leg	I_{FSM}	60	Amps
Operating & Storage Temperature	T_J and T_{STG}	-65 to +175	$^\circ\text{C}$
Thermal Resistance Junction to End Tab	$R_{\theta JE}$	4.2	$^\circ\text{C/W}$

NOTES:

^{1/} For ordering information, price, operating curves, and availability- contact factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

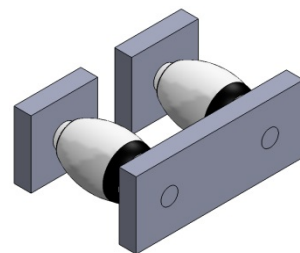
^{3/} Unless otherwise specified, all electrical characteristics @ 25°C .

Physical Properties

DIODE: **Ceramic** sealed

END TAB: **Copper** with **Tin-Lead** finish & **Nickel** under-plate.

Actual Size



NOTE: All specifications are subject to change without notification.
 SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RC0191A

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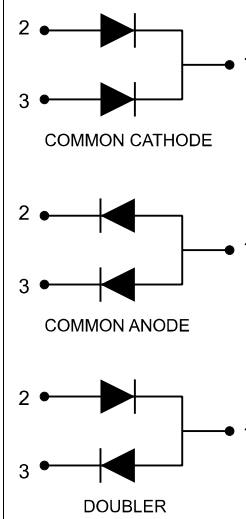
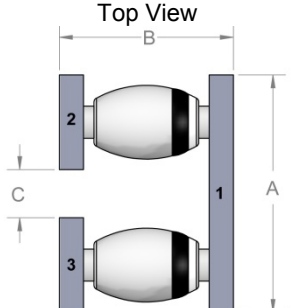
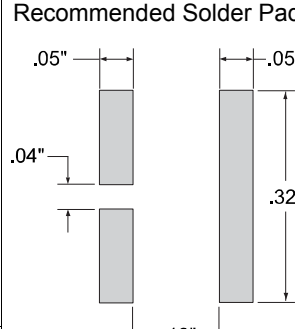
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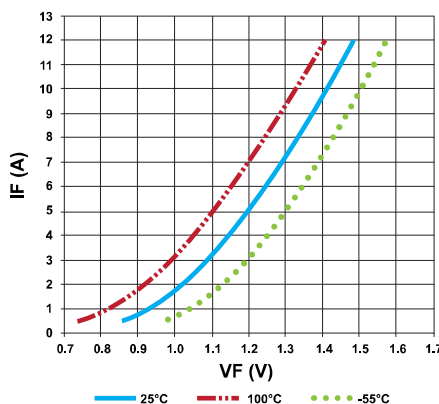
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ELECTRICAL CHARACTERISTICS (per leg) ^{3/}	SYMBOL	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage Drop 300 μ s pulse	$I_F = 1.5$ A V_{F1}	--	0.98	1.1	V
	$I_F = 3.0$ A V_{F2}	--	1.10	1.3	
	$I_F = 3.0$ A, $T_A = +100^\circ\text{C}$ V_{F3}	--	1.00	1.2	
	$I_F = 0.5$ A, $T_A = -55^\circ\text{C}$ V_{F4}	--	1.00	1.2	
	$I_F = 1.5$ A, $T_A = -55^\circ\text{C}$ V_{F5}	--	1.10	1.2	
Reverse Leakage Current 300 μ s pulse	$V_R = 600$ V I_{R1}	--	0.2	1	μ A
	$V_R = 1000$ V I_{R2}	--	0.5	2	
	$V_R = 600$ V, $T_A = +100^\circ\text{C}$ I_{R3}	--	8	20	
	$V_R = 1000$ V, $T_A = +100^\circ\text{C}$ I_{R4}	--	13	40	
Breakdown Voltage $I_R = 100$ μ A, pulse ≤ 20 ms	B_{VR1}	1000	1150	--	V
Junction Capacitance $V_R = 10$ Vdc, $f = 1$ MHz	C_J	--	22	45	pF
Maximum Reverse Recovery Time $I_F = 1.0$ A, $I_{RM} = 1.0$ A, $I_{(REC)} = 0.1$ A	t_{RR}	--	250	400	nsec

Package Outlines:

DIMENSIONS (inches)			Top View	Recommended Solder Pad	
DIM.	MIN	MAX			
A	.294	.301			
B	.190	.210			
C	.046	.067			
D	.116	.123			
E	.003	---			
F	.022	.028			
POLARITY			Side View		
PIN	1	2	3		
CT	Cathode	Anode	Anode		
CA	Anode	Cathode	Cathode		
D	Cathode / Anode	Anode	Cathode		

Average VF vs. Forward Current (per leg)



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