



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

SDR8255 thru SDR8257 Series

**12 AMP
 HYPERFAST RECOVERY
 SUBMINIATURE HALF-BRIDGE RECTIFIER
 CENTERTAP / DOUBLER
 100 – 200 VOLTS
 30 nsec**

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SDR825

┌ **Screening ^{2/}**
 = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

┌ **Polarity**
 CA= Common Anode
 CT = Common Cathode
 D = Doubler

┌ **Body Length**
 = Standard
 A = Short

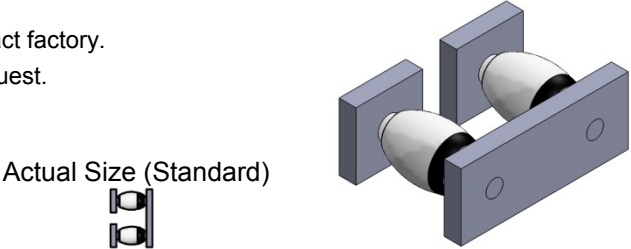
┌ **Voltage**
 5 = 100 Volts
 6 = 150 Volts
 7 = 200 Volts

- FEATURES:**
- Subminiature Bridge with Surface Mount Tab
 - Hyper fast reverse recovery time: 30 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
 - TX, TXV, and S-level screening available ^{2/}

MAXIMUM RATINGS ^{3/}		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SDR8255	V_{RRM}	100	Volts
	SDR8256	V_{RWM}	150	
	SDR8257	V_R	200	
Average Rectified Forward Current Resistive load, 60Hz, Sine wave, $T_C \leq 125^\circ C$	Per bridge	I_O	12	Amps
	Per leg		6	
Peak Surge Current Non-repetitive, t = 8.3 ms half sine, per leg	SDR8255 – SDR8256	I_{FSM}	180	Amps
	SDR8257		160	
Operating & Storage Temperature		T_J and T_{STG}	-65 to +175	$^\circ C$
Thermal Resistance	Junction to End Tab for Standard	$R_{\theta JE}$	4.2	$^\circ C/W$
	Junction to End Tab for Short	$R_{\theta JEA}$	3.2	

- 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.





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ELECTRICAL CHARACTERISTICS (per leg) ^{3/}		SYMBOL	MIN	MAX	UNIT
Instantaneous Forward Voltage Drop SDR8255 – SDR8256	I _F = 0.5 A	V _{F1}	--	0.700	V
	I _F = 1.0 A	V _{F2}	--	0.810	
	I _F = 3.0 A	V _{F3}	--	0.865	
	I _F = 4.0 A	V _{F4}	--	0.875	
	I _F = 6.0 A	V _{F5}	--	0.925	
Instantaneous Forward Voltage Drop SDR8257	I _F = 0.5 A	V _{F6}	--	0.710	V
	I _F = 1.0 A	V _{F7}	--	0.820	
	I _F = 3.0 A	V _{F8}	--	0.890	
	I _F = 4.0 A	V _{F9}	--	0.940	
	I _F = 6.0 A	V _{F10}	--	1.000	
Breakdown Voltage I _R = 100 μA, pulse ≤ 20 ms	SDR8255	B _{VR1}	110	--	V
	SDR8256		160	--	
	SDR8257		210	--	
Breakdown Voltage I _R = 100 μA, T _A = -65°C	SDR8255	B _{VR2}	100	--	V
	SDR8256		150	--	
	SDR8257		200	--	
Reverse Leakage Current V _R = V _{RWM} , pulsed V _R ≤ 20ms	T _A = +25°C	I _{R1}	--	2	μA
	T _A = +150°C	I _{R2}	--	100	
Junction Capacitance V _R = 10 Vdc, f = 1MHz	SDR8255 - SDR8256	C _J	--	50	pF
	SDR8257		--	45	
Maximum Reverse Recovery Time I _F = 1.0A, I _{RM} = 1.0A, I _(REC) = 0.1A		t _{RR}	--	30	nsec
Maximum Forward Recovery Time I _F = 50mA		t _{FR}	--	15	nsec

Package Outlines:

DIMENSIONS (inches)				
DIM.	___ (Standard)		A (Short Tab Version)	
	MIN	MAX	MIN	MAX
A	.294	.301	.294	.301
B	.190	.210	.150	.165
C	.046	.067	.046	.067
D	.116	.123	.116	.123
E	.003	---	.003	---
F	.022	.028	.022	.028

Top View

Recommended Solder Pad

*For the A (short tab version)

COMMON CATHODE

COMMON ANODE

DOUBLER

Side View