



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

**SDR30010HG
 thru
 SDR30020HG**

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SDR30 **H**

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

Package G = Cerpack

Recovery Time H = Hyper Fast

Family/Voltage 010 = 100V
 015 = 150V
 020 = 200V

**30 AMP
 HYPER FAST
 RECTIFIER
 100 - 200 VOLTS
 35 nsec**

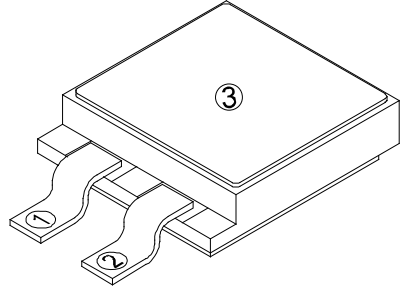
- FEATURES:**
- Hyper Fast Recovery: 35 ns Maximum
 - High Surge Rating
 - Low Reverse Leakage Current
 - Low Junction Capacitance
 - Hermetically Sealed Power Package
 - Gold Eutectic Die Attach Available
 - Ultrasonic Aluminum Wire Bonds
 - TX, TXV, or Space Level Screening Available

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage ^{3/}	SDR30010	V_{RRM}	100	Volts
	SDR30015	V_{RWM}	150	
	SDR30020	V_R	200	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_C = 100^\circ\text{C}$)		I_O	30	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)		I_{FSM}	250	Amps
Operating & Storage Temperature		$T_{OP} \ \& \ T_{STG}$	-65 to +200	°C
Maximum Total Thermal Resistance Junction to Case		$R_{\theta JC}$	1.5	°C/W

NOTES:

- ^{1/} For ordering information, price, and availability, contact factory.
- ^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.
- ^{3/} Higher voltages available.
- ^{4/} Both anodes tied together.

Cerpack





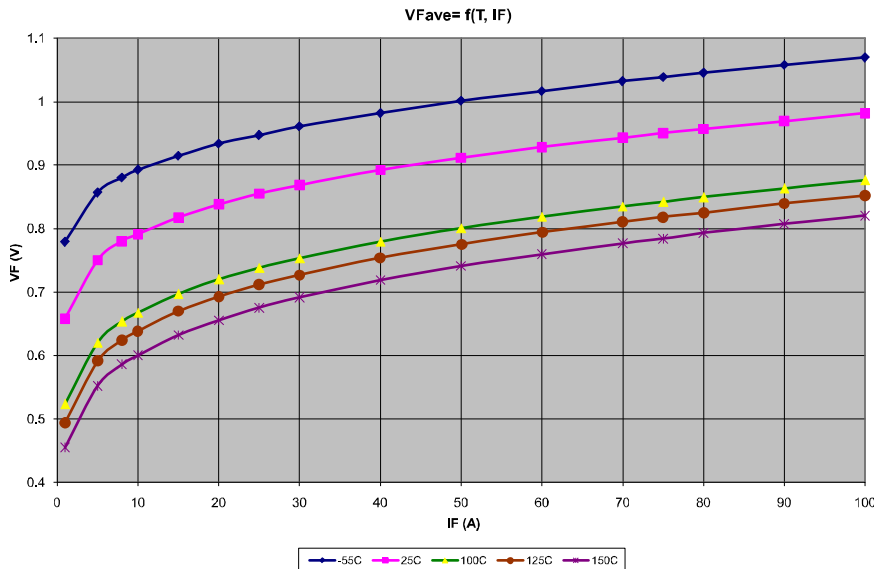
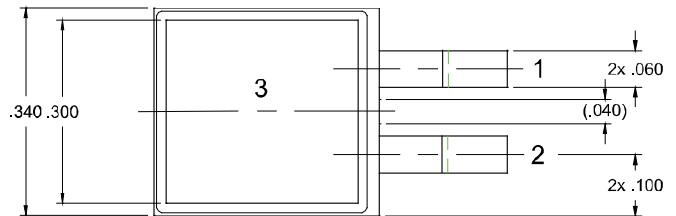
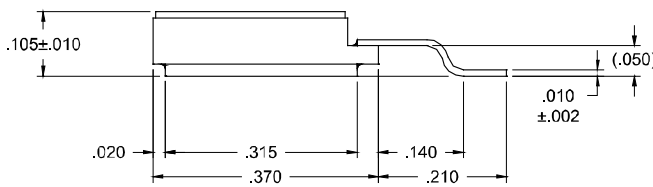
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SDR30010HG thru SDR30020HG

Electrical Characteristic		Symbol	Typ	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 10\text{ A}$	V_{F1}	0.80	0.95	V_{DC}
	$I_F = 20\text{ A}$	V_{F2}	0.84	0.98	
	$I_F = 30\text{ A}$	V_{F3}	0.88	1.10	
Instantaneous Forward Voltage Drop ($T_A = -55^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 10\text{ A}$	V_{F4}	0.90	1.1	V_{DC}
	$I_F = 20\text{ A}$	V_{F5}	0.95	1.15	
	$I_F = 30\text{ A}$	V_{F6}	0.97	1.2	
Instantaneous Forward Voltage Drop ($T_A = 125^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 10\text{ A}$	V_{F7}	0.64	0.80	V_{DC}
	$I_F = 20\text{ A}$	V_{F8}	0.70	0.86	
	$I_F = 30\text{ A}$	V_{F9}	0.74	0.90	
Reverse Leakage Current (100% of rated V_R , 300 μs pulse min.)	$T_A = 25^\circ\text{C}$	I_{R1}	0.025	10	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	2.5	-	
	$T_A = 125^\circ\text{C}$	I_{R3}	8	100	
	$T_A = 150^\circ\text{C}$	I_{R4}	30	-	
Reverse Recovery Time ($I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{RR} = 0.25\text{ A}$, $T_A = 25^\circ\text{C}$)		t_{RR1}	30	35	nsec
Reverse Recovery Time ($I_F = 10\text{ A}$, $di_F/dt = 100\text{ A/us}$)	$T_A = 25^\circ\text{C}$	t_{RR2} I_{RM2}	45 2.6	- -	nsec A
	$T_A = 100^\circ\text{C}$	t_{RR3} I_{RM3}	85 5	- -	nsec A
Junction Capacitance ($T_A = 25^\circ\text{C}$, $f = 1\text{ MHz}$)	$V_R = 5\text{ V}_{DC}$	C_J	470	-	μF
	$V_R = 10\text{ V}_{DC}$		375	500	

CASE OUTLINE: Cerpack



PIN ASSIGNMENT

Package	Pin 1	Pin 2	Pin 3
Cerpack	Anode	Anode	Cathode

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

DATA SHEET #: RC0149A

DOC