



Solid State Devices, Inc.

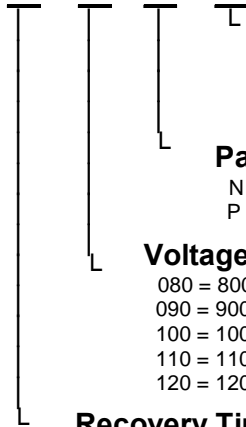
14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

SDR60U080N thru SDR60U120N and SDR60U080P thru SDR60U120P

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SDR60



Screening ^{2/}

- = Not Screened
- TX = TX Level
- TXV = TXV Level
- S = S Level

Package Type

- N = TO-258
- P = TO-259

Voltage/Family

- 080 = 800V
- 090 = 900V
- 100 = 1000V
- 110 = 1100V
- 120 = 1200V

Recovery Time

- U = Ultra Fast

**60 AMP
Low VF
Ultra Fast Recovery
Rectifier
800 -1200 Volts
50 nsec**

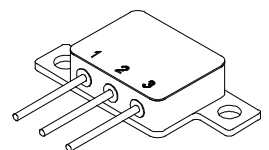
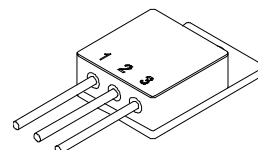
Features:

- Ultra Fast Recovery: 45 nsec typical
- High Surge Rating
- Low Reverse Leakage Current
- Low Forward Voltage Drop
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach available
- Ultrasonic Aluminum Wire Bonds
- Ceramic Seals for improved hermeticity available
- TX, TXV, Space Level Screening Available Consult Factory.^{2/}

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SDR60U080	V_{RRM}	800	Volts
	SDR60U090		900	
	SDR60U100	V_{RWM}	1000	
	SDR60U110		1100	
	SDR60U120	V_R	1200	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$) ^{3/4/}		I_o	60	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$) ^{3/4/}		I_{FSM}	500	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to End Tab ^{3/}		$R_{\theta JE}$	0.75	$^\circ\text{C/W}$

TO-258 (N)

TO-259 (P)



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

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

^{3/} Pins 2 & 3 connected.

^{4/} Limited by wirebonding

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

DATA SHEET #: RC0144A

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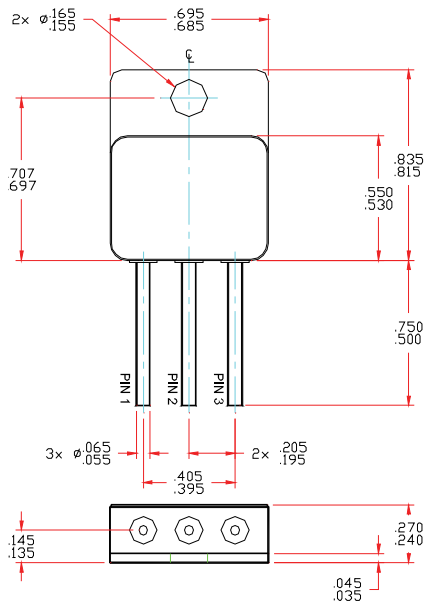
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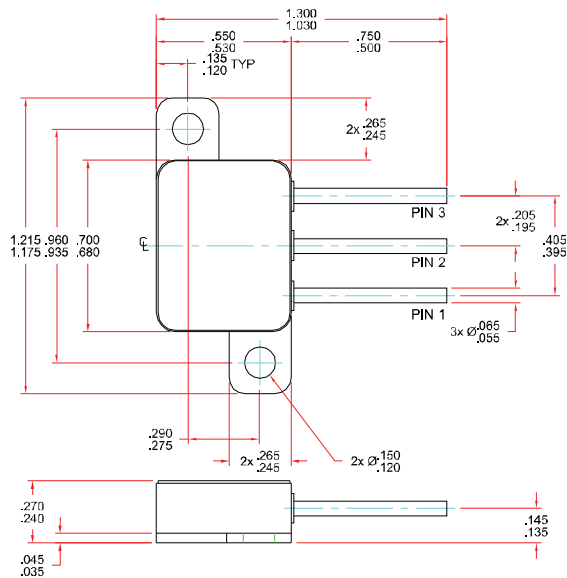
**SDR60U080N thru SDR60U120N
 and
 SDR60U080P thru SDR60U120P**

Electrical Characteristics		Symbol	Typ	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 μsec pulse)	$I_F = 20\text{A}$	V_{F1}	1.7	1.9	Volts
	$I_F = 50\text{A}$		1.85	2.0	
	$I_F = 100\text{A}$		1.98	2.5	
Instantaneous Forward Voltage Drop ($T_A = -55^\circ\text{C}$, 300 μsec pulse)	$I_F = 20\text{A}$	V_{F2}	1.75	--	Volts
	$I_F = 50\text{A}$		1.85	2.1	
	$I_F = 100\text{A}$		1.98	--	
Instantaneous Forward Voltage Drop ($T_A = 125^\circ\text{C}$, 300 μsec pulse)	$I_F = 20\text{A}$	V_{F3}	1.14	1.4	Volts
	$I_F = 50\text{A}$		1.45	1.7	
	$I_F = 100\text{A}$		1.7	--	
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μsec pulse minimum)		I_{R1}	75	500	μA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μsec pulse minimum) (Rated V_R , $T_A = 125^\circ\text{C}$, 300 μsec pulse minimum) (Rated V_R , $T_A = 150^\circ\text{C}$, 300 μsec pulse minimum)		I_{R2}	5	--	mA
			20	150	
			50	--	
Junction Capacitance ($V_R = 5\text{Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$) ($V_R = 10\text{Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)		C_J	200	--	pF
			175	300	
Reverse Recovery Time ($I_F = 500\text{mA}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$) ($I_F = 500\text{mA}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$) ($I_F = 10\text{A}$, $dI_F/dt = 100\text{A/us}$) ($I_F = 10\text{A}$, $dI_F/dt = 100\text{A/us}$) ($I_F = 10\text{A}$, $dI_F/dt = 100\text{A/us}$) ($I_F = 10\text{A}$, $dI_F/dt = 100\text{A/us}$)	$T_A = 25^\circ\text{C}$	t_{rr1}	45	50	nsec
	$T_A = 100^\circ\text{C}$		150	--	
	$T_A = 25^\circ\text{C}$	t_{rr3}	75	--	nsec
	$T_A = 25^\circ\text{C}$		5	--	
	$T_A = 100^\circ\text{C}$	t_{rr4}	150	--	nsec
	$T_A = 100^\circ\text{C}$		10	--	
			I_{RM3}		
		I_{RM4}			A

Case Outline: TO-258



Case Outline: TO-259



Note 1: Pin 2&3 connected together

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