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

SDR958 thru SDR9512 Series

DESIGNER'S DATA SHEET

Part Number/Ordering Information[1/]

SDR ___ ___ ___ ___

Screening[2/] ___ = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Lead Options __ = Straight Leads
DB = Bent Down
UB = Bent Up

Package N = TO-258
P = TO-259
S2 = SMD2

Family/Voltage 958 = 800V
959 = 900V
9510 = 1000V
9511 = 1100V
9512 = 1200V

50 AMP
800 -1200 Volts
100 nsec
Ultrafast Recovery
Rectifier

Features:

- Ultrafast Recovery: 80 nsec typical
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Package
- Faster Recovery Times Available – Contact Factory
- TX, TXV, Space Level Screening Available - Consult Factory

Maximum Ratings		Symbol	Value	Unit
Peak Repetitive Reverse and DC Blocking Voltage	**SDR958** **SDR959** **SDR9510** **SDR9511** **SDR9512**	V_{RRM} V_{RWM} V_R	800 900 1000 1100 1200	**V**
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T_A = 25°C)[3/]		I_O	50	**A**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on Io, Allow Junction to Reach Equilibrium Between Pulses, T_A = 25°C)[3/]		I_{FSM}	500	**A**
Operating & Storage Temperature		T_{OP} & T_{STG}	-65 to +200	**°C**
Maximum Thermal Resistance Junction to Case[3/]	N & P SMD2	$R_{\theta JC}$	0.45 0.30	**°C/W**

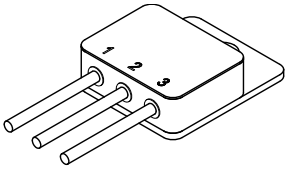
Notes:

1/ For ordering information, price, operating curves, and availability - contact factory

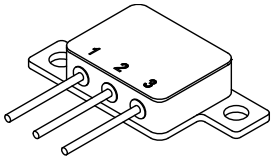
2/ Screening based on MIL-PRF-19500. Screening flows available on request.

3/ Pins 2 & 3 connected

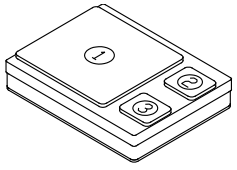
TO-258



TO-259



SMD2



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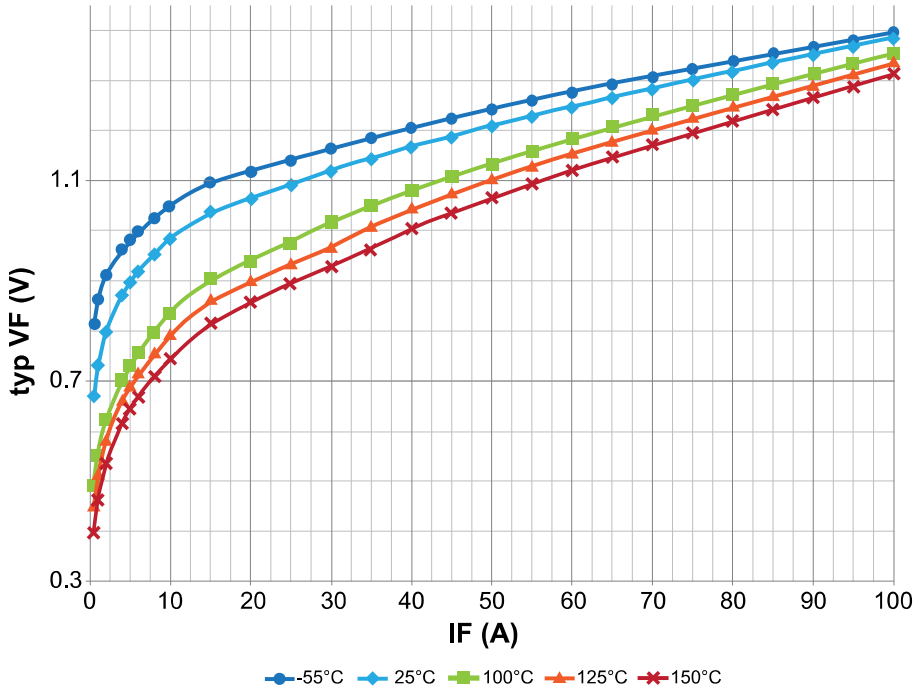
Electrical Characteristics[3/]		Symbol	Typ	Max	Unit
Instantaneous Forward Voltage Drop (T_A = 25°C, 300 µsec pulse)	I_F = 20 Adc I_F = 50 Adc I_F = 100 Adc	V_{F1}	1.10 1.25 1.40	-- 1.7 2.0	V
Instantaneous Forward Voltage Drop	T_A = -55°C, I_F = 20 Adc T_A = -55°C, I_F = 50 Adc T_A = 100°C, I_F = 20 Adc T_A = 100°C, I_F = 50 Adc	V_{F2}	1.20 1.30 0.95 1.15	-- 1.80 -- 1.60	V
Reverse Leakage Current (Rated V_R, T_A = 25°C, 300 µsec pulse minimum)		I_{R1}	50	100	µA
Reverse Leakage Current (Rated V_R, T_A = 100°C, 300 µsec pulse minimum) (Rated V_R, T_A = 125°C, 300 µsec pulse minimum) (Rated V_R, T_A = 150°C, 300 µsec pulse minimum)		I_{R2}	3.0 7.0 17.0	10 -- --	mA
Junction Capacitance (V_R = 5 Vdc, T_A = 25°C, f = 1 MHz) (V_R = 10 Vdc, T_A = 25°C, f = 1 MHz)		C_J	180 160	-- 250	pF
Reverse Recovery Time (I_F = 500 mA, I_R = 1 A, I_{RR} = 0.25 A) (I_F = 10 A, dI_F/dt = 100 A/µs) (I_F = 10 A, dI_F/dt = 100 A/µs) (I_F = 10 A, dI_F/dt = 45 A/µs) (I_F = 10 A, dI_F/dt = 45 A/µs) (I_F = 10 A, dI_F/dt = 45 A/µs) (I_F = 10 A, dI_F/dt = 45 A/µs)	 T_A = 25°C T_A = 25°C T_A = 25°C T_A = 25°C T_A = 100°C T_A = 100°C	 t_{rr1} t_{rr2} I_{RM2} t_{rr3} I_{RM3} t_{rr4} I_{RM4}	 100 135 8.0 210 4.0 330 7.5	 150 -- -- -- -- -- --	 nsec nsec A nsec A nsec A

SDR958 thru SDR9512 Series

Typ VF (V) vs. IF (A)



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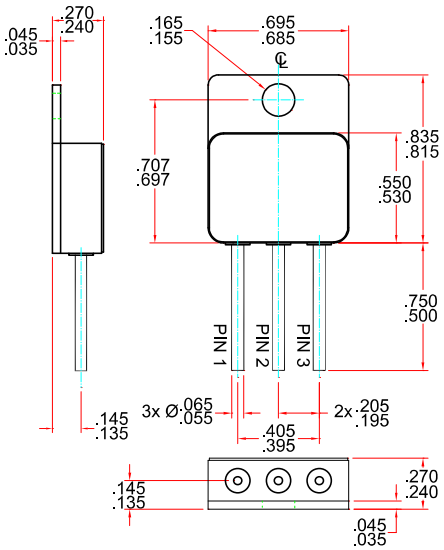
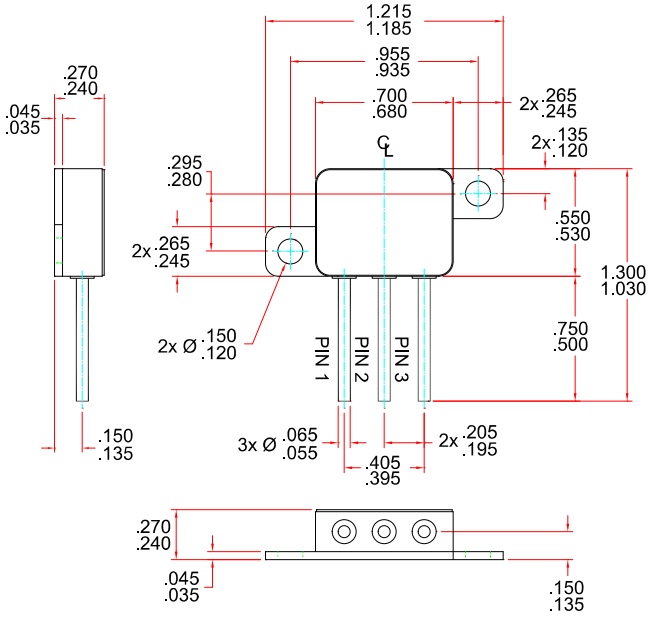
SDR958 thru SDR9512 Series

Case Outline: TO-258 (N)

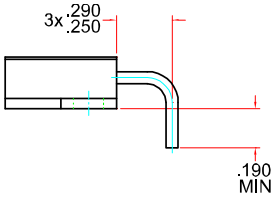


Case Outline: TO-259 (P)

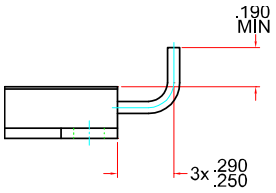


Lead Forming Options

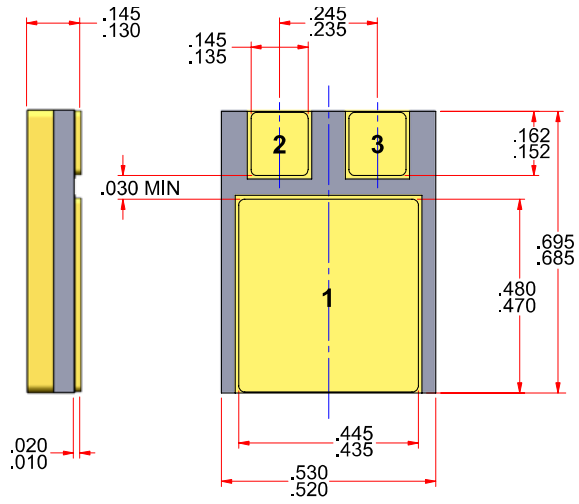
Suffix DB:



Suffix UB:



Case Outline: SMD2 (S2)



Bottom View

PIN ASSIGNMENT

Pin 1: Cathode
Pin 2: Anode
Pin 3: Anode

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	**DATA SHEET #: RU0113E**	**DOCX**