Solid State Devices, Inc.
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SDR950M & Z thru SDR952M & Z

Designer's Data Sheet

Part Number/Ordering Information [1/]

SDR950 ___ ___ ___

- **Screening** [2/]
  - __ = Not Screened
  - TX = TX Level
  - TXV = TXV Level
  - S = S Level
- **Leg Bend Option**
  - (See Figure 1)
- **Package** M = TO-254, Z = TO-254Z

50 A, 35 nsec typ., 100 - 200 V Hyperfast Rectifier

Features:

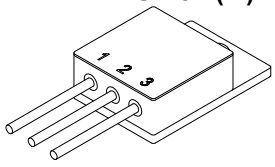
- **Hyperfast Recovery: 50 nsec Maximum** [3/]
- **High Surge Rating**
- **Low Reverse Leakage Current**
- **Low Junction Capacitance**
- **Hermetically Sealed Package**
- **Gold Eutectic Die Attach**
- **Ultrasonic Aluminum Wire Bonds**
- **Higher Voltages and Faster Recovery Times Available, Contact Factory**
- **Ceramic Seal for Improved Hermeticity Available**
- **TX, TXV, and S-Level Screening Available** [2/]

Maximum Ratings [4/]	**Symbol**	**Value**	**Units**
Peak Repetitive Reverse Voltage **SDR950M & Z** / **SDR951M & Z** / **SDR952M & Z**	V_{RRM} / V_{RWM} / V_R	100 / 150 / 200	**Volts**
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T_A = 25°C) [5/]	**Io**	50	**Amps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, or equivalent DC)	I_{FSM}	350	**Amps**
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +200	**°C**
Maximum Total Thermal Resistance Junction to Case	$R_{\theta JC}$	0.85	**°C/W**

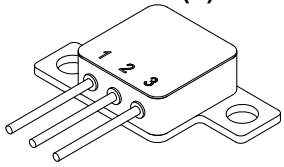
Notes:

1/ For ordering information, price, operating curves, and availability- Contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.
3/ Recovery conditions: I_F =10 Amp, di/dt = 200A/µs
4/ Pins 2 and 3 tied together.
5/ T_C = 150°C, derate to 0 A @ 200°C.

TO-254 (M)



TO-254Z (Z)



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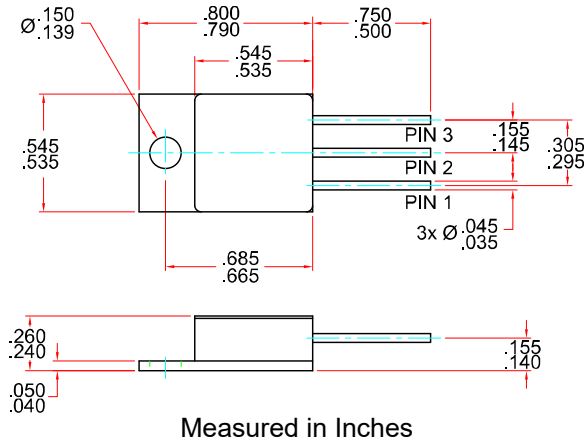
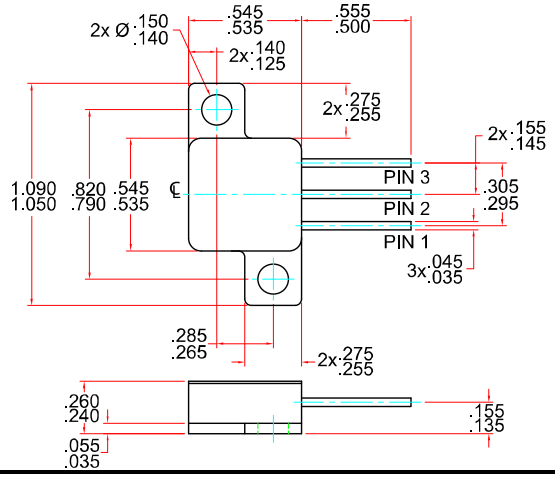
Electrical Characteristics		Symbol	Max	Units
Instantaneous Forward Voltage Drop (I_F = 25 A, 300 - 500 µsec Pulse) (I_F = 50 A, 300 - 500 µsec Pulse)	T_A = 25°C T_A = 25°C	V_{F1} V_{F2}	1.00 1.25	V_{DC}
Instantaneous Forward Voltage Drop (I_F = 50 Adc, 300 - 500 µsec Pulse)	T_A = -55°C	V_{F3}	1.35	V_{DC}
Reverse Leakage Current (300 µsec Pulse Minimum)	T_A = 25°C, Rated V_R T_C = 100°C, 80% of Rated V_R	I_{R1} I_{R2}	100 10	µA mA
Reverse Recovery Time (I_F =10 Amp, dI_F/dt = 200 A/µs)		t_{RR}	55	nsec
Junction Capacitance (V_R = 10 V_{DC}, T_A = 25°C, f = 1MHz)		C_J	900	pF

TO-254 (Suffix M) Outline:



Measured in Inches

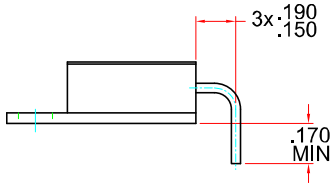
TO-254Z (Suffix Z) Outline:



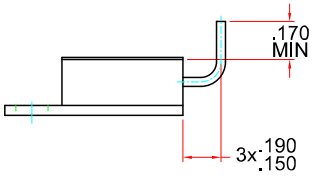
PIN ASSIGNMENT		
PIN 1	**PIN 2**	**PIN 3**
Cathode	**Anode**	**Anode**

Figure 1- Optional Lead Bends

Suffix MDB & ZDB



Suffix MUB & ZUB



Ave VF (V) vs. IF (A)