Solid State Devices, Inc.
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SDR620J, M & Z
Thru
SDR622J, M & Z

Designer's Data Sheet

Part Number/Ordering Information[1/]

SDR620 ___ ___ ___ ___

- **Screening**[2/] __ = Not Screened, TX = TX Level, TXV = TXV Level, S = S Level
- **Leg Bend Option** (See Figure 1) __ = Straight, DB = Down Bend, UB = Up Bend
- **Package** J = TO-257, M = TO-254, Z = TO-254Z
- **Pin Configuration** (See Table 1) __ = Normal, R = Reverse
- **Family/Voltage** SDR620 = 100V, SDR621 = 150V, SDR622 = 200V

20 AMP
HYPER FAST RECTIFIER
100 – 200 VOLTS
35 nsec

Features:

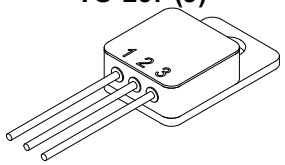
- **Hyper Fast Recovery: 35nsec Maximum**[3/]
- **Low Reverse Leakage Current**
- **Low Junction Capacitance**
- **Hermetically Sealed Isolated Package**
- **Higher Voltages Available**
- **Available in Centertap Versions**
- **Replaces 1N5816 and 1N5816R**
- **TX, TXV, and S-Level Screening Available**[2/]

Maximum Ratings[4/]		Symbol	Value	Units
Peak Repetitive Reverse Voltage	**SDR620J, M & Z** **SDR621J, M & Z** **SDR622J, M & Z**	V_{RRM} V_{RWM} V_R	100 150 200	**Volts**
Average Rectified Forward Current[5/] (Resistive Load, 60 Hz Sine Wave, T_A = 25°C)		I_O	20	**Amps**
Peak Surge Current[5/] (8.3 ms Pulse, Half Sine Wave, T_A = 25°C)	**J** (TO-257) **M** (TO-254) & **Z** (TO-254Z)	I_{FSM}	200 300	**Amps**
Operating & Storage Temperature		T_{OP} & T_{STG}	-65 to +200	**ºC**
Maximum Total Thermal Resistance[5/] Junction to Case		$R_{\theta JC}$	1.7	**ºC/W**

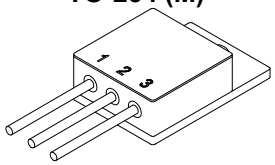
Notes:

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 = 500 mA, I_R = 1 Amp, I_{RR} = 250 mA.
4/ Unless otherwise specified, all maximum ratings / electrical characteristics @25°C.
5/ Pins 2 & 3 together.

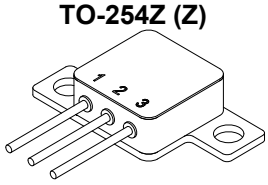
TO-257 (J)



TO-254 (M)



TO-254Z (Z)



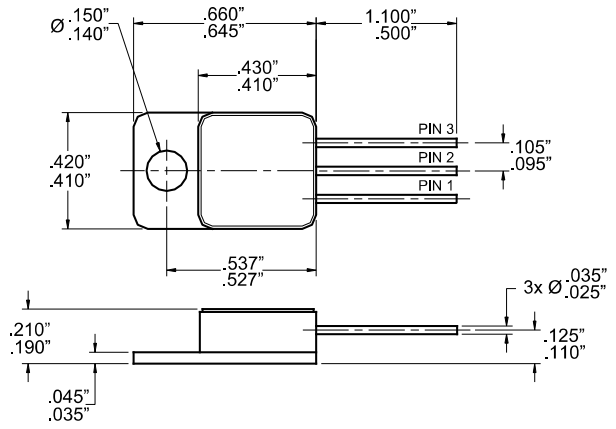
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SDR620J, M & Z Thru SDR622J, M & Z

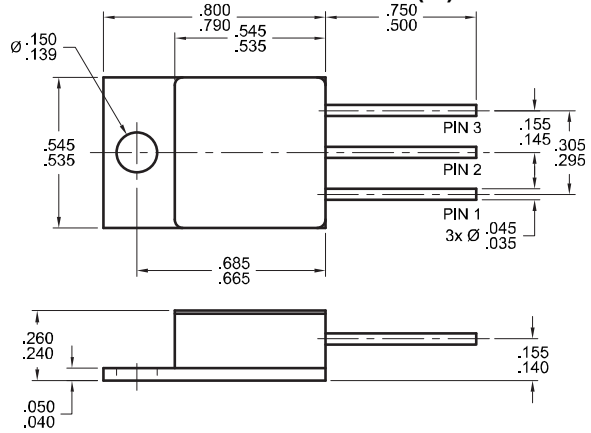
Electrical Characteristics (per leg)[4/]		Symbol	Max	Units
Instantaneous Forward Voltage Drop	300µsec Pulse, I_F = 10A, T_A = 25ºC	V_{F1}	1.00	V_{DC}
	300µsec Pulse, I_F = 20A, T_A = 25ºC	V_{F2}	1.20	
	300µsec Pulse, I_F = 10A, T_A = 100ºC	V_{F3}	0.90	
	300µsec Pulse, I_F = 10A, T_A = -55ºC	V_{F4}	1.15	
Reverse Leakage Current (Rated V_R , 300µsec Pulse Minimum)	T_A = 25ºC	I_{R1}	10	µA
	T_A = 100ºC	I_{R2}	100	µA
Reverse Recovery Time (I_F = 500 mA, I_R = 1 Amp, I_{RR} = 250 mA)		t_{RR}	35	nsec
Junction Capacitance (V_R = 10V_{DC}, T_A = 25ºC, f = 1MHz)		C_J	225	pF

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 = 500 mA, I_R = 1 Amp, I_{RR} = 250 mA.
4/ Unless otherwise specified, all maximum ratings / electrical characteristics @25°C.
5/ Pins 2 & 3 together.

Case Outline: TO-257 (J)



Case Outline: TO-254 (M)



Case Outline: TO-254Z (Z)

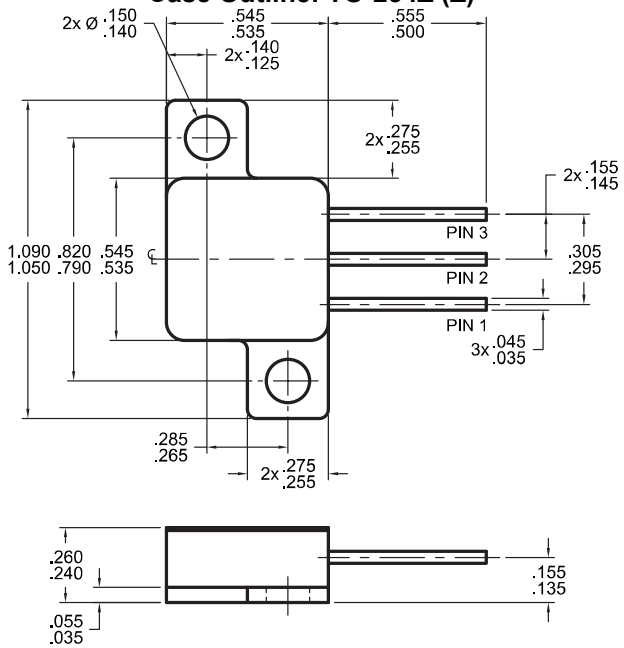
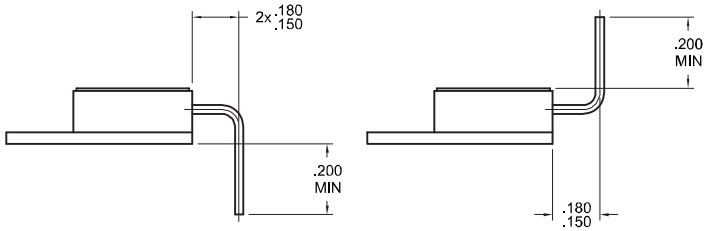
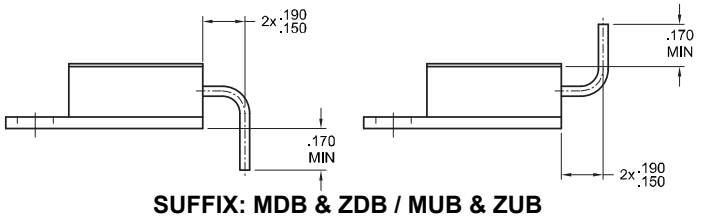


Figure 1- Optional Lead Bends



SUFFIX: JDB / JUB



SUFFIX: MDB & ZDB / MUB & ZUB

Table 1- PIN ASSIGNMENT

Code	Configuration	Pin 1	Pin 2	Pin 3
__	Normal	Cathode	Anode	Anode
R	Reverse	Cathode	Cathode	Anode