Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
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SDR604 - SDR608

Designer's Data Sheet

15 A, 55 - 60 nsec, 400 - 800 V Ultrafast Recovery Rectifier

Part Number/Ordering Information[1/]

SDR ___ ___

Screening[3/]
___ = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Voltage
604 = 400 V
605 = 500 V
606 = 600 V
607 = 700 V
608 = 800 V

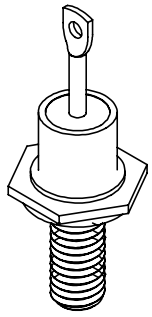
Features:

- Ultrafast Recovery: 55-60 nsec Maximum
- Low Reverse Leakage Current
- Single Chip Construction
- PIV to 800 Volts
- Hermetically Sealed
- High Surge Rating
- Low Thermal Resistance
- Also available in 2 Pin TO-59 or TO-111
- Isolated Package upon request
- TX, TXV, and Space Level Screening Available[3/]

Maximum Ratings[2/]		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	**SDR604** **SDR605** **SDR606** **SDR607** **SDR608**	**V_{RRM}** **V_{RWM}** **V_R**	**400** **500** **600** **700** **800**	**V**
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T_A= 25°C)		**I_O**	**15**	**A**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T_A= 25°C)		**I_{FSM}**	**180**	**A**
Operating & Storage Temperature		**T_{OP} & T_{STG}**	**-65 to +175**	**°C**
Maximum Thermal Resistance (Junction to Case)		**$R_{\theta JC}$**	**2.5**	**°C/W**

Notes:
1/ For ordering information, price, operating curves, and availability - contact factory.
2/ Unless otherwise specified, all maximum ratings/electrical characteristics @ 25ºC.
3/ Screening based on MIL-PRF-19500. Screening flows available on request.

DO-4



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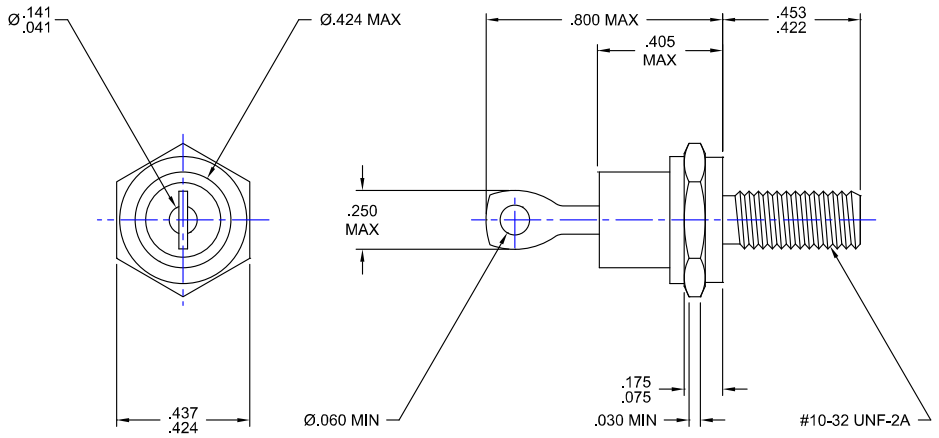
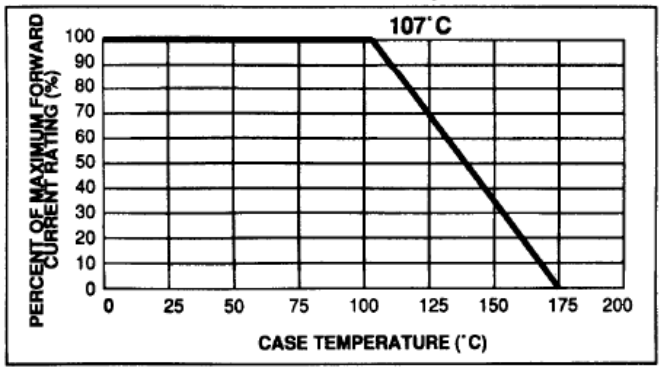
SDR604 - SDR608

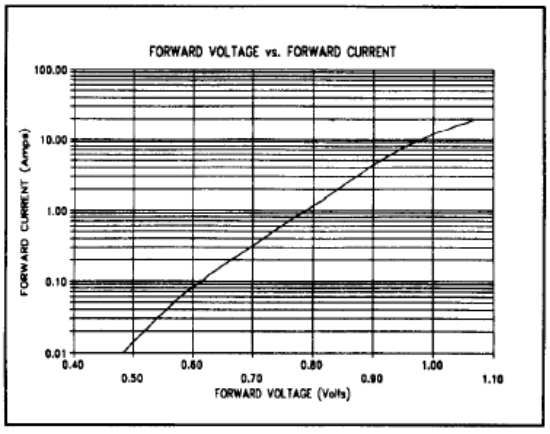
Electrical Characteristics		Symbol	Value	Units
Instantaneous Forward Voltage Drop (I_F = 15 Adc, T_A= 25°C, 300 µs Pulse)		V_F	1.35	V_{DC}
Instantaneous Forward Voltage Drop (I_F = 15 Adc, T = -55°C, 300 µs Pulse)		V_F	1.45	V_{DC}
Reverse Leakage Current (Rated V_R, T_A = 25°C, 300 µs minimum pulse)		I_R	25	µA
Reverse Leakage Current (Rated V_R, T_A = 100°C, 300 µs minimum pulse)		I_R	500	µA
Junction Capacitance (V_R = 10 V_{DC}, T_A = 25°C, f = 1 MHz)		C_J	40	pF
Reverse Recovery Time (I_F = 500 mA, I_R = 1 A, I_{RR} = 250 mA, T_A = 25°C)	**SDR604-606** **SDR607-608**	t_{RR}	55 60	nsec

Case Outline: DO-4
Stud: Cathode
Lead: Anode



TYPICAL OPERATING CURVES
TA=25°C Unless otherwise specified





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