



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

SDR4405 thru SDR4431

**10 Amp
 Hyper Fast Recovery Rectifier
 50 - 300 Volts
 40 nsec**

Designer's Data Sheet

Part Number/Ordering Information^{1/}
SDR44

- Screening^{3/}
 - = Not Screened
 - TX = TX Level
 - TXV = TXV Level
 - S = S Level
- Package
 - C = Ministud
 - V = Isolated Ministud
- Voltage
 - 05 (C), 06 (V) = 50 V
 - 10 (C), 11 (V) = 100 V
 - 20 (C), 21 (V) = 200 V
 - 30 (C), 31 (V) = 300 V

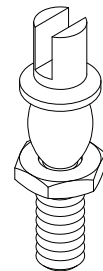
- Features:**
- Hyper fast recovery: 40 nsec maximum
 - PIV to 300 volts
 - Mini 4-40 UNC stud package
 - Hermetically sealed
 - Void free construction
 - For high efficiency applications
 - Replaces 1N5811 types
 - TX, TXV, and Space Level Screening Available^{3/}

Maximum Ratings ^{2/}	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50 100 200 300	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A = 25^\circ\text{C}$)	I_O	10	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_O , allow junction to reach equilibrium between pulses, $T_A = 25^\circ\text{C}$)	I_{FSM}	125	Amps
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance (Junction to Case)	$R_{\theta JC}$	7.5	$^\circ\text{C/W}$

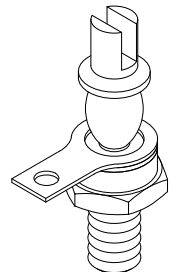
Notes:

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

Ministud (C)



Isolated Ministud (V)





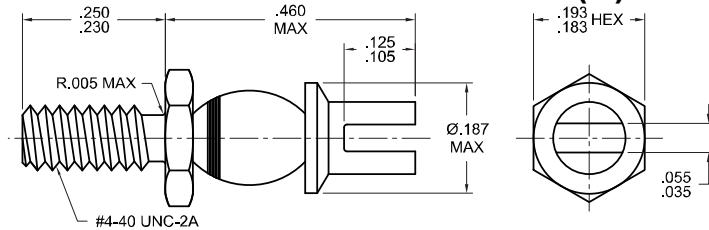
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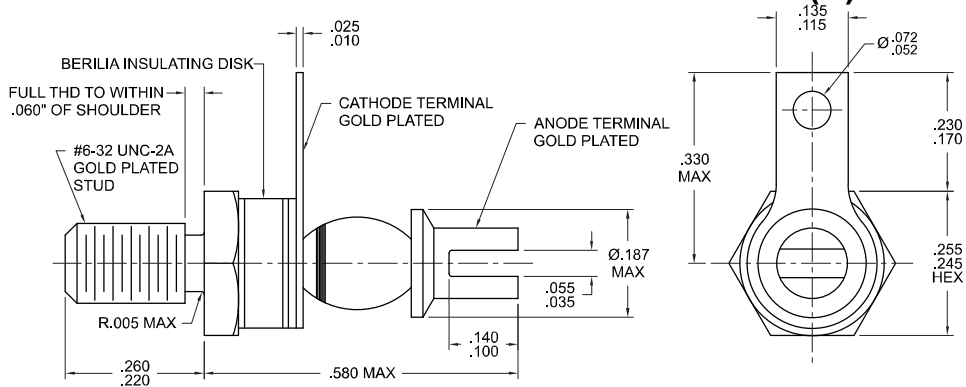
SDR4405 thru SDR4431

Electrical Characteristics ^{2/}	Symbol	Max	Units
Instantaneous Forward Voltage Drop ($I_F = 10 \text{ Adc}$, $T_A = 25^\circ\text{C}$, 300 μs pulse)	V_{F1}	1.1	V_{DC}
Instantaneous Forward Voltage Drop ($I_F = 10 \text{ Adc}$, $T_A = -55^\circ\text{C}$, 300 μs pulse)	V_{F2}	1.2	V_{DC}
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs pulse minimum)	I_{R1}	20	μA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs pulse minimum)	I_{R2}	1	mA
Junction Capacitance ($V_R = 10 V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1 \text{ MHz}$)	C_J	100	pF
Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1 \text{ A}$, $I_{RR} = 250 \text{ mA}$, $T_A = 25^\circ\text{C}$)	t_{RR}	40	nsec

CASE OUTLINE: MINISTUD (C)

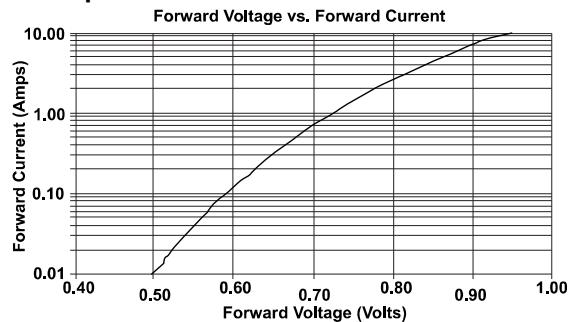
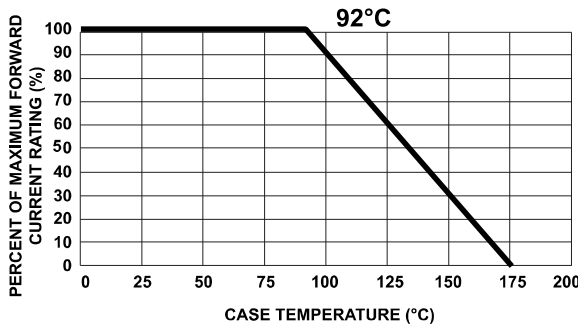


CASE OUTLINE: ISOLATED MINISTUD (V)



TYPICAL OPERATING CURVES

$T_A = 25^\circ\text{C}$ unless otherwise specified



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

DATA SHEET #: RH0097B

DOC