



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
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Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SPD

Screening ^{2/} ___ = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Pin Configuration ___ = Normal (Cathode to Stud)
(See Table 1) R = Reverse (Anode to Stud)

Family/Voltage 3899 = 50V
3900 = 100V
3901 = 200V
3902 = 300V
3903 = 400V

SPD3899

Thru

SPD3903

20 Amp

50-400 Volt

120 nsec

FAST RECOVERY RECTIFIER

Features:

- Fast Recovery: 120 nsec maximum
- Low Reverse Leakage Current
- Single Chip Construction
- PIV to 400V
- Hermetically Sealed
- High Surge Rating
- Low Thermal Resistance
- Higher Voltage Devices Available—Contact Factory
- For Reverse Polarity Add Suffix "R"
- Replacement for 1N3899, 1N3900, 1N3901, 1N3902, and 1N3903
- TX, TXV, and S-Level Screening Available ^{2/}

Maximum Ratings

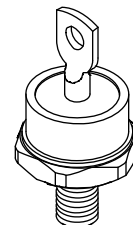
	Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SPD3899 SPD3900 SPD3901 SPD3902 SPD3903	50 100 200 300 400	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T _A = 25 °C)	I _O	20	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T _A = 25 °C)	I _{FSM}	250	Amps
Operating & Storage Temperature	T _{OP} & T _{STG}	-65 to +150	°C
Maximum Thermal Resistance Junction to Case	R _{θJC}	1.8	°C/W

DO-5:

Notes:

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

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



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

DATA SHEET #: RF0005B

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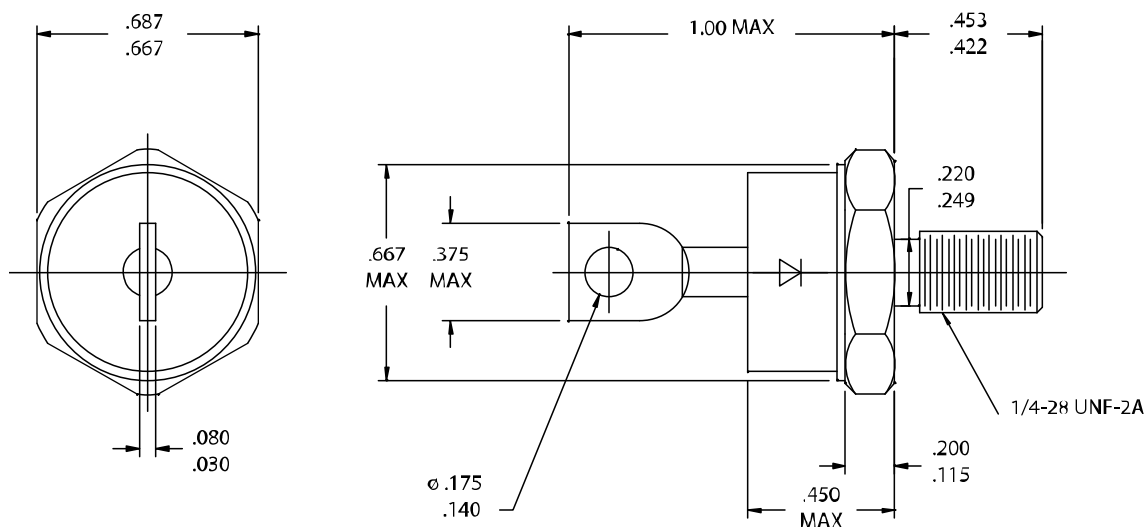
SPD3899 Thru SPD3903

Electrical Characteristics	Symbol	Max	Units
Instantaneous Forward Voltage Drop ($I_F = 20 \text{ A}$, $T_A = 25^\circ\text{C}$, 300 μs pulse)	V_F	1.40	V_{DC}
Instantaneous Forward Voltage Drop ($I_F = 20 \text{ A}$, $T_A = -55^\circ\text{C}$, 300 μs pulse)	V_F	1.55	V_{DC}
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs pulse minimum)	I_R	25	μA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs pulse minimum)	I_R	2.5	mA
Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1 \text{ Amp}$, $I_{RR} = 250 \text{ mA}$, $T_A = 25^\circ\text{C}$)	t_{RR}	120	nsec
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	C_J	300	pF

Table 1- PIN ASSIGNMENT

Code	Configuration	Terminal	Stud
—	Normal	Anode	Cathode
R	Reverse	Cathode	Anode

DO-5 Outline (Normal Pin Configuration Shown):



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