



Solid State Devices, Inc.

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SDAD101 F Series

2,500 to 15,000 VOLTS FAST RECOVERY STACKABLE HIGH VOLTAGE RECTIFIER

Designer's Data Sheet

Part Number/Ordering Information ^{1/}
SDAD10 1

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

Reverse Recovery Time
 F = Fast Recovery Time

Voltage 2.5 = 2.5kV, 5 = 5kV,
 7.5 = 7.5kV, 10 = 10kV, and
 15 = 15kV

Power Rating (See Below)

Package Size = 1 Inch Diameter

- FEATURES:**
- Stackable to 600 kV+
 - PIV 2.5 kV to 15 kV
 - Fast Reverse Recovery Time
 - Only Hermetically Sealed Rectifiers Used
 - Controlled Avalanche Rated
 - Modular Design for Easy Stacking
 - Storage and Operating Temps -65°C to +150°C
 - Available in Standard, Ultra Fast and Hyper Fast Versions
 - TX, TXV, and S-Level Screening Available ^{2/}
 - Replacement Upgrade – Microsemi / Unitrode Types UFB2.5 Through UFS10

ELECTRICAL CHARACTERISTICS^{3/}

| Part Number | Peak Inverse Voltage | Reverse Recovery Time ^{5/} | Average DC Output Current ^{4/} | | Surge Non-repetitive | Maximum Forward Voltage Drop | | Maximum Leakage Current @PIV | Replacement Part Number |
|------------------------------|----------------------|-------------------------------------|---|-------|----------------------|------------------------------|--------------------|------------------------------|-------------------------|
| | PIV (kV) | Max (ns) | I _f (avg) | | | V _f (V) | I _f (A) | | |
| | 25 °C | 25 °C | 75 °C | 50 °C | | 100 °C | 25 °C | | |
| SDAD101 B 2.5 F | 2.5 | 500 | 0.90 | 2.00 | 70 | 6.0 | 0.90 | 10 | UFB-2.5 |
| SDAD101 B 5.0 F | 5.0 | 500 | 0.58 | 1.30 | 70 | 12.0 | 0.60 | 10 | UFB-5 |
| SDAD101 S 5.0 F | 5.0 | 500 | 0.50 | 0.90 | 20 | 12.0 | 0.50 | 5 | UFS-5 |
| SDAD101 B 7.5 F | 7.5 | 500 | 0.45 | 1.00 | 70 | 18.0 | 0.40 | 10 | UFB-7.5 |
| SDAD101 S 7.5 F | 7.5 | 500 | 0.38 | 0.75 | 20 | 18.0 | 0.40 | 5 | UFS-7.5 |
| SDAD101 S 10 F | 10 | 500 | 0.30 | 0.58 | 20 | 23.0 | 0.30 | 5 | UFS-10 |
| High Current Versions | | | | | | | | | |
| SDAD101 H 2.5 F | 2.5 | 500 | 1.80 | 4.00 | 150 | 3.6 | 1.8 | 10 | --- |
| SDAD101 H 5.0 F | 5.0 | 500 | 1.06 | 2.60 | 150 | 6.1 | 1.1 | 10 | --- |
| SDAD101 H 7.5 F | 7.5 | 500 | 0.90 | 2.00 | 150 | 9.0 | 0.9 | 10 | --- |
| SDAD101 H 10 F | 10 | 500 | 0.76 | 1.50 | 150 | 11.8 | 0.8 | 10 | --- |
| SDAD101 H 15 F | 15 | 500 | 0.60 | 1.06 | 30 | 17.2 | 0.5 | 10 | --- |

SDAD101 Package:

NOTES:

- 1/ For Ordering Information, Price, Curves, and Availability- Contact Factory.
- 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- 4/ T_c = 50 °C typical operation in oil.
T_c = 75 °C is typical ambient T_a = 25 °C unheatsunk.
- 5/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp rec. to .25 Amp.

