



Solid State Devices, Inc.

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SDAD103 F Series

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

Designer's Data Sheet

Part Number/Ordering Information ^{1/}
 SDAD10 3

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

Reverse Recovery Time ^{4/ 5/}
 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 = 3 Inches Diameter

- FEATURES:**
- Stackable to 600 kV+
 - PIV 2.5 kV to 15 kV
 - High Current Ratings
 - 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 Ultra Fast and Hyper Fast Versions
 - Replacement Upgrade – Microsemi / Unitrode types UGF-2.5 through UGC-15
 - TX, TXV, and S-Level Screening Available ^{2/}

ELECTRICAL CHARACTERISTICS ^{3/}

| Part Number | Peak Inverse Voltage | Reverse Recovery Time ^{5/} | Average DC Output Current ^{4/} Tc = Case Temperature | | | Surge Non-repetitive | Maximum Forward Voltage Drop | | Maximum Leakage Current @PIV | Replacement Part Number |
|-----------------------|----------------------|-------------------------------------|--|-------|-------|----------------------|------------------------------|--------|------------------------------|-------------------------|
| | PIV (KV) | Max (ns) | If(avg) | | | Ifsm | Vf (V) | If (A) | Ir (uA) | |
| | 25 °C | 25 °C | 75 °C | 50 °C | 60 °C | 100 °C | 25 °C | | 25 °C | |
| SDAD103 F 2.5 F | 2.5 | 500 | 5.00 | 8.00 | 6.25 | 150 | 6.0 | 2.5 | 10 | UGF-2.5 |
| SDAD103 F 5.0 F | 5.0 | 500 | 3.75 | 6.00 | 4.70 | 150 | 11 | 1.8 | 10 | UGF-5 |
| SDAD103 D 5.0 F | 5.0 | 500 | 3.30 | 4.80 | 4.10 | 80 | 11 | 1.6 | 5 | UGD-5 |
| SDAD103 F 7.5 F | 7.5 | 500 | 2.50 | 4.00 | 3.10 | 150 | 17 | 1.2 | 10 | UGF-7.5 |
| SDAD103 D 7.5 F | 7.5 | 500 | 2.25 | 3.50 | 2.80 | 80 | 17 | 1.1 | 5 | UGD-7.5 |
| SDAD103 D 10 F | 10 | 500 | 1.75 | 2.50 | 2.20 | 80 | 22 | 0.85 | 5 | UGD-10 |
| SDAD103 C 15 F | 15 | 500 | 1.18 | 1.67 | 1.47 | 30 | 27 | 0.65 | 5 | UGC-15 |
| High Current Versions | | | | | | | | | | |
| SDAD103 H 2.5 F | 2.5 | 500 | 10.0 | 16.0 | 12.5 | 200 | 3.30 | 8.0 | 30 | --- |
| SDAD103 H 5.0 F | 5.0 | 500 | 7.50 | 12.0 | 9.40 | 200 | 6.80 | 6.2 | 30 | --- |
| SDAD103 H 7.5 F | 7.5 | 500 | 5.00 | 8.00 | 6.20 | 200 | 8.65 | 4.0 | 20 | --- |
| SDAD103 H 10 F | 10 | 500 | 3.50 | 5.00 | 4.40 | 125 | 12.0 | 2.5 | 10 | --- |
| SDAD103 H 15 F | 15 | 500 | 2.36 | 3.33 | 2.94 | 125 | 17.2 | 1.6 | 10 | --- |

SDAD103 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/} Tc = 50 °C typical operation in oil.
 Tc = 75 °C is typical ambient Ta = 25 °C unheatsunk.
 Tc = 60 °C typical operation with extender plates in air.
- ^{5/} Recovery conditions: If = 0.5 Amp, Ir = 1.0 Amp rec. to .25 Amp.

