



# 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 <sup>1/</sup>**  
 SDAD10 3

**Screening <sup>2/</sup>**  
 \_\_\_ = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

**Reverse Recovery Time <sup>4/ 5/</sup>**  
 F = Fast Recovery Time

**Voltage**  
 2.5 = 2.5 kV      7.5 = 7.5 kV  
 3.8 = 3.8 kV      10 = 10 kV  
 5 = 5 kV          15 = 15 kV

**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<sup>2/</sup>

### ELECTRICAL CHARACTERISTICS <sup>3/</sup>

Part Number	Peak Inverse Voltage	Reverse Recovery Time <sup>5/</sup>	Average DC Output Current <sup>4/</sup> 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 (µA)	
	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
<b>High Current Versions</b>										
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	---
<b>High Current Version / Repetitive High Avalanche Energy Rated<sup>6/</sup></b>										
SDAD103 H 3.8F	3.8	350	9.7	12	11.1	190	4.6	12.0	5	---

### 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.
- 6/ Consult factory for energy rating.

