

DSF/FSO Series



- Up to 28 A Output Current
- Active Surge Protection
- MIL-STD-461E/F
- DEF-STAN 59-41
- MIL-STD 1275A/B/C & D
- MIL-STD-810F
- 3 Year Warranty

Specification

Input

| | |
|----------------------------------|--|
| Input Voltage Range | • See Models & Ratings table |
| Input Transient | • ± 250 V for 50 μ s 15 mJ, 100 V for 50 ms 0.5 Ω per MIL-STD-1275A/B/C & D |
| Input Reverse Voltage Protection | • Continuous |
| Fuse Protection | • None |

Output

| | |
|-----------------------------|---|
| Output Voltage | • Tracks input voltage & clamps <36 VDC |
| Output Power | • See Models & Ratings table |
| Output Module Inhibit (INH) | • Open collector transistor rated 70 VDC with 5 mA sink current referenced to -Vin/-Vout. When the output current is:- >4 A: DSF100, >7.77 A : DSF200LV >28 A: DSF500 then the INH pin is pulled logic low. This can be used to inhibit downstream DC-DC converters and reduce the load on the filter. When the output current is lower than above the INH pin is logic high. |
| Overtemperature Protection | • Shuts down output by pulling disable pin low when baseplate > 100 °C. Typical hysteresis 5 °C auto recovery (not fitted to '-H' models) |

General

| | |
|------------------------|---|
| Efficiency | • See Table |
| Isolation Voltage | • 500 VDC Input & Output to Case |
| Series Resistance | • 0.07 Ω DSF100, 0.26 Ω DSF200LV, 0.018 Ω DSF500, 0.013 Ω FS0461 |
| Disabled Input Current | • 25 mA |
| Disable (DIS) | • On = Logic high or open circuit Off = Logic low or short circuit |
| No Load Current | • 75 mA |
| Package Style | • Photo-etched nickel-silver case with RoHS compliant conductive chromate finish & aluminium cooling baseplate |
| MTBF | • DSF100: 2496 kHrs, DSF200LV: 2218 kHrs, DSF500: 573 kHrs, FSO461: 8737 kHrs, to MIL-HDBK-217F at 40°C, GB |

Environmental

| | |
|-----------------------|--|
| Operating Temperature | • -40 °C to +100 °C baseplate temperature |
| Storage Temperature | • -55 °C to +100 °C ambient |
| Salt Atmosphere | • MIL-STD-810F method 509.4 |
| Humidity | • MIL-STD-810F 507.4 |
| Altitude | • MIL-STD-810F 500.4 |
| Shock | • MIL-STD-810F 516.5 function test for ground equipment 40 g in 3 axes |
| Vibration | • MIL-STD-810F method 514.5C-17. Minimum integrity test for military equipment (1 Hr/axis, 3 axes). Vibration 5-33 Hz, 0.5 mm displacement |

EMC & Safety

| | |
|------------------|--|
| Safety Approvals | • CE marked LVD |
| Immunity | • MIL-STD-1275A-D MIL-STD-461E/F (CS101, CS114, CS115 & CS116) MIL-STD-704A |
| EMC Performance | • DSF100 & DSF200LV: MIL-STD 461E/F CE102 & DEF STAN 59-41 DCE01/DCE02 is achieved with external components. DSF500: Compliance to MIL-STD 461E/F CE102 & DEF STAN 59-41 DCE01/DCE02 is achieved when used inconjunction with FS0461. See longform datasheet for more information. |

Models & Ratings

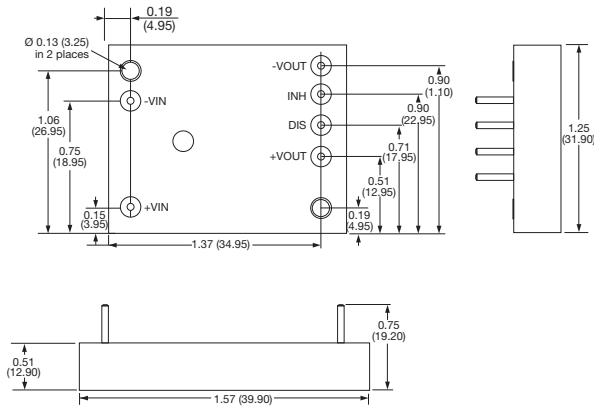
| Output Power | Input Voltage | Output | | Typical Efficiency | Model Number |
|--------------|---------------|-------------------|-----------------------|--------------------|------------------------------------|
| | | Voltage | Max Current | | |
| 100 W | 10-33 VDC | <36 VDC | 3.7 A | 98% | DSF100 |
| 30 - 54 W | 10-18 VDC | <36 VDC | 3.0 A | 92% | DSF200 LV [^] |
| 126 - 230 W | 18-33 VDC | <36 VDC | 7.0 A | 93% | |
| 280 - 500 W | 10-33 VDC | <36 VDC | 28.0 A ⁽²⁾ | 98% | DSF500 ⁽⁴⁾ [^] |
| 500 W | 0-100 VDC | Vin - Iin x 0.013 | 28.0 A | 99% | FSO461 ⁽³⁾ |

Notes

- For models without overtemperature protection, add suffix '-H' to the model number e.g DSF500-H.
 - For input voltages above 18 V, maximum load is 500 W.
 - FSO461 has filter circuitry only. To be used with DSF500 for conducted immunity compliance.
 - DSF500 has surge protection only. To meet stated EMC performance it must be used with FSO461.
- [^] Available from Newark. See pages 270-272.

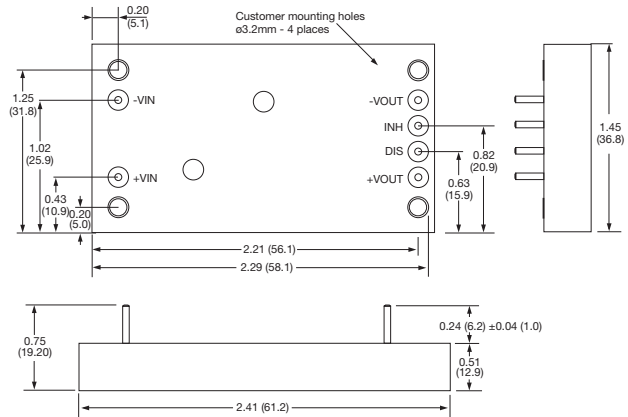
Mechanical Details

DSF100 - Surge protection and filter



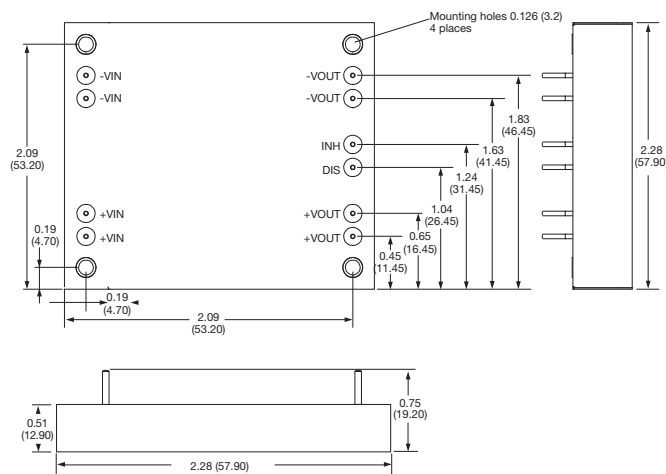
Weight: 0.11 lbs (50 g). Pin diameter 0.04 (1.0)
 All dimensions in inches (mm). Tolerance ±0.008 (±0.2)

DSF200LV - Surge protection and filter



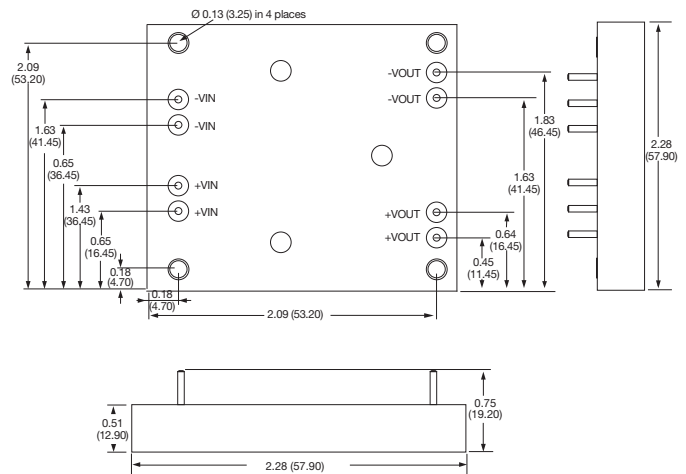
Weight: 0.18 lbs (80g). Pin diameter 0.04 (1.0)
 All dimensions in inches (mm). Tolerance ±0.008 (±0.2)

DSF500 - Surge protection



Weight: 0.36 lbs (160 g). Pin diameter 0.04 (1.0)
 All dimensions in inches (mm). Tolerance ±0.008 (±0.2)

FSO461 - Filter



Weight: 0.36 lbs (160 g). Pin diameter 0.04 (1.0)
 All dimensions in inches (mm). Tolerance ±0.008 (±0.2)