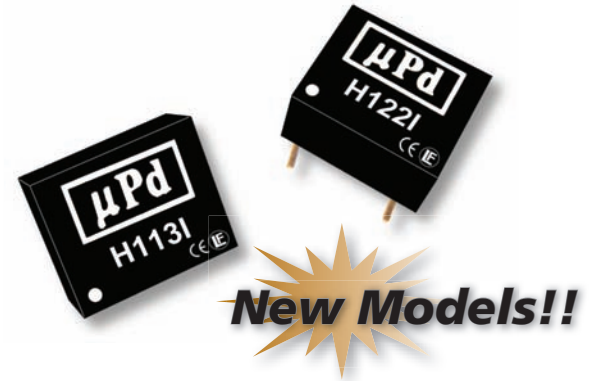


H100I Series

Ultra-Miniature MiniDIP 1W, High Isolation DC/DC Converters



Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Key Features:

- 1W Output Power
- Miniature MiniDIP Case
- 3,000 VDC Isolation
- Complies to RFI Standards
- >2 MHour MTBF
- 18 Standard Models
- Industry Standard Pin-Out



RoHS Compliant



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Input

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|--------------------------------|--------------------|------|------|------|-------|
| Input Voltage Range | 5 VDC Input | 4.5 | 5.0 | 5.5 | VDC |
| | 12 VDC Input | 10.8 | 12.0 | 13.2 | |
| | 24 VDC Input | 21.6 | 24.0 | 26.4 | |
| Input Filter | Internal Capacitor | | | | |
| Reverse Polarity Input Current | | | | 0.3 | A |

Output

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|-------------------------|--------------------------------|------|-------|-------|----------|
| Output Voltage Accuracy | | | ±1.0 | ±3.0 | % |
| Line Regulation | For Vin Change of 1% | | ±1.2 | ±1.5 | % |
| Load Regulation | I _{out} = 20% to 100% | | ±8.0 | | % |
| Ripple & Noise (20 MHz) | | | | 100 | mV P - P |
| Output Power Protection | | 120 | | | % |
| Temperature Coefficient | | | ±0.01 | ±0.02 | %/°C |
| Output Short Circuit | Momentary (0.5 Sec.) | | | | |

General

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|-----------------------|--|-------|------|------|-------|
| Isolation Voltage | 60 Seconds | 3,000 | | | VDC |
| Isolation Resistance | 500 VDC | 1,000 | | | MΩ |
| Isolation Capacitance | 100 kHz, 1V | | 60 | 100 | pF |
| Switching Frequency | | | 80 | | kHz |
| EMI/RFI | EN55022 A, EN55024 A, IEC 61000-4-2, IEC 61000-4-3, FCC 47 CFR Part 15 B | | | | |

Environmental

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|-----------------------------|---------------------|------|------|------|-------|
| Operating Temperature Range | | -40 | +25 | +85 | °C |
| Operating Temperature Range | Case | | | +100 | °C |
| Storage Temperature Range | | -40 | | +125 | °C |
| Cooling | Free Air Convection | | | | |
| Humidity | RH, Non-condensing | | | 95 | % |

Physical

| | | | | | |
|---------------|---|--|--|--|--|
| Case Size | 0.50 x 0.40 x 0.27 Inches (12.70 x 10.16 x 6.85 mm) | | | | |
| Case Material | Non-Conductive Black Plastic (UL94-V0) | | | | |
| Weight | 0.06 Oz (1.8g) | | | | |

Reliability Specifications

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|-----------|---------------------------------|------|------|------|--------|
| MTBF | MIL HDBK 217F, 25°C, Gnd Benign | 2.0 | | | MHours |

Absolute Maximum Ratings

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|-----------------------------|-----------------------------|------|------|------|-------|
| Input Voltage Surge (1 Sec) | 5 VDC Input | -0.7 | | 7.0 | VDC |
| | 12 VDC Input | -0.7 | | 15.0 | |
| | 24 VDC Input | -0.7 | | 28.0 | |
| Lead Temperature | 1.5 mm From Case For 10 Sec | | | 260 | °C |
| Internal Power Dissipation | All Models | | | 450 | mW |

Caution: Exceeding Absolute Maximum Ratings may damage the module. These are not continuous operating ratings.

Model Selection Guide

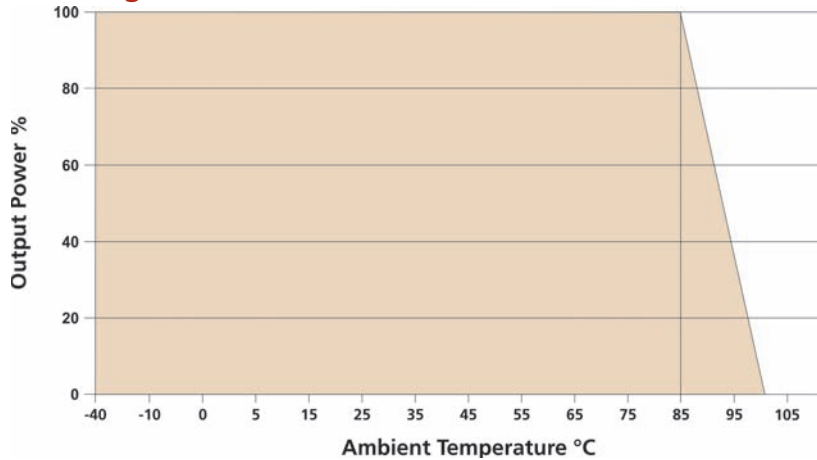
| Model Number | Input | | | | Output | | | Efficiency (% Typ) | Fuse Rating Slow-Blow (mA) |
|--------------|---------------|-------------|--------------|---------|---------------|-------------------|-------------------|--------------------|----------------------------|
| | Voltage (VDC) | | Current (mA) | | Voltage (VDC) | Current (mA, Max) | Current (mA, Min) | | |
| | Nominal | Range | Full-Load | No-Load | | | | | |
| H101I | 5 | 4.5 - 5.5 | 278 | 25 | 3.3 | 300.0 | 5.0 | 72 | 500 |
| H102I | 5 | 4.5 - 5.5 | 267 | 25 | 5.0 | 200.0 | 4.0 | 75 | 500 |
| H103I | 5 | 4.5 - 5.5 | 260 | 25 | 9.0 | 111.0 | 2.0 | 77 | 500 |
| H104I | 5 | 4.5 - 5.5 | 256 | 25 | 12.0 | 83.3 | 2.0 | 78 | 500 |
| H105I | 5 | 4.5 - 5.5 | 257 | 25 | 15.0 | 66.6 | 2.0 | 78 | 500 |
| H106I | 5 | 4.5 - 5.5 | 257 | 25 | 24.0 | 41.6 | 2.0 | 78 | 500 |
| H111I | 12 | 10.8 - 13.2 | 116 | 16 | 3.3 | 300.0 | 5.0 | 72 | 200 |
| H112I | 12 | 10.8 - 13.2 | 112 | 16 | 5.0 | 200.0 | 4.0 | 75 | 200 |
| H113I | 12 | 10.8 - 13.2 | 109 | 16 | 9.0 | 111.0 | 2.0 | 77 | 200 |
| H114I | 12 | 10.8 - 13.2 | 107 | 16 | 12.0 | 83.3 | 2.0 | 78 | 200 |
| H115I | 12 | 10.8 - 13.2 | 107 | 16 | 15.0 | 66.6 | 2.0 | 78 | 200 |
| H116I | 12 | 10.8 - 13.2 | 107 | 16 | 24.0 | 41.6 | 2.0 | 78 | 200 |
| H121I | 24 | 21.6 - 26.4 | 58 | 8 | 3.3 | 300.0 | 5.0 | 72 | 100 |
| H122I | 24 | 21.6 - 26.4 | 56 | 8 | 5.0 | 200.0 | 4.0 | 75 | 100 |
| H123I | 24 | 21.6 - 26.4 | 55 | 8 | 9.0 | 111.0 | 2.0 | 77 | 100 |
| H124I | 24 | 21.6 - 26.4 | 54 | 8 | 12.0 | 83.3 | 2.0 | 78 | 100 |
| H125I | 24 | 21.6 - 26.4 | 54 | 8 | 15.0 | 66.6 | 2.0 | 78 | 100 |
| H126I | 24 | 21.6 - 26.4 | 54 | 8 | 24.0 | 41.6 | 2.0 | 78 | 100 |

Other outputs are available.
Contact the factory for details at:
sales@micropowerdirect.com

Notes:

- Output load regulation is specified for a load change of 20% to 100%.
- When measuring output ripple, it is recommended that an external 0.33 μF ceramic capacitor be placed from the +Vout pin to the -Vout pin.
- Operation at no-load will not damage these units. However, they may not meet all specifications.
- The 5V, 12V and 24V input units do not require external components to operate, but the use of a low ESR capacitor (approximately 10 μF , ESR < 1.0 Ω at 100 kHz) mounted close to the converter input pins is recommended. For 48 VDC input units, an input capacitor should always be used. Dependent upon the application, a value between 4.7 μF and 47 μF should be sufficient.
- It is recommended that a fuse be used on the input of a power supply for protection. See the table above for the correct rating.

Derating Curve



Capacitive Load

| (μF Max) |
|----------------------|
| 220 |

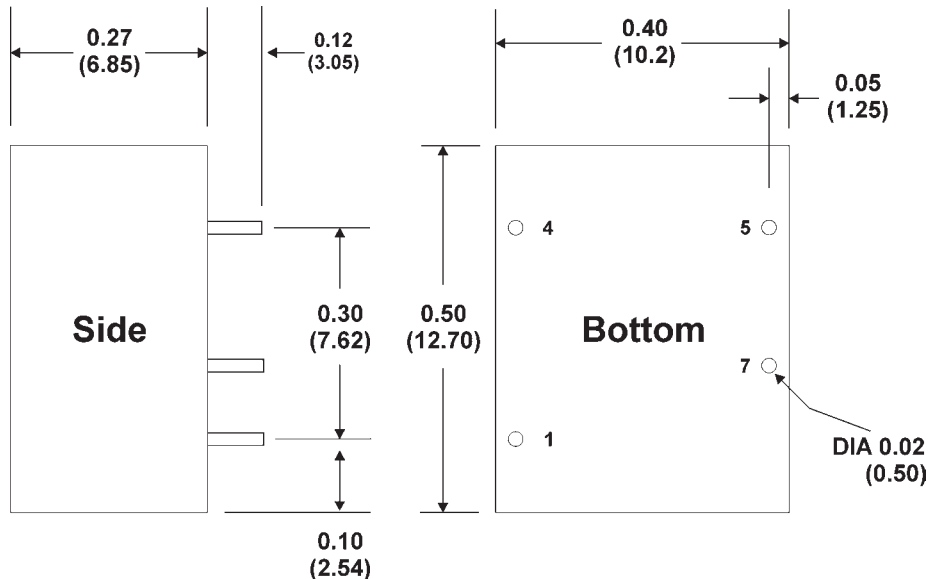
Pin Connections

| Pin | Function |
|-----|----------|
| 1 | -Vin |
| 4 | +Vin |
| 5 | +Vout |
| 7 | -Vout |

Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ± 0.01 (± 0.25)
- Pin 1 is marked by a "dot" or indentation on the top of the unit

Mechanical Dimensions



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