

TECHNICAL DATASHEET

ELECTRICAL SPECIFICATIONS

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Print Date 03.03.2025 10:06

DC-Converter 154DH-48-ON

480 Watt, non isolated, single output buck converter

All parameters defined on Ta=25°C, IoNom = 10.0 ADC and UiNom = 80VDC

ABSOLUTE MAXIMUM RATINGS

| parameter | unit | typ |
|--------------------|------|--------|
| Input peak voltage | VDC | 170.00 |

THERMAL CHARACTERISTICS

| parameter | min to max | typ |
|--|---------------|--------|
| Ambient temperature range | -40°C / +85°C | |
| Max. case temperature for thermal shut down [°C] | | +90°C |
| Storage temperature (device not in operation) | -10°C / +65°C | |
| Relative maximum humidity under storage | | 75% RH |
| Storage under worst conditions [in days] | | 25 |

COMMUNICATION INTERFACE

| parameter | unit | fulfilled | conditions | min to max |
|--|------|-----------|------------|---------------|
| Option Enable (connect to Vin for operation) | | ✓ | | |
| Enable voltage for transformer | VDC | | IoNom | 40.0 to 160.0 |

SPECIALS

| parameter | unit | fulfilled | conditions | typ |
|---|------|-----------|---------------|-----------|
| Switching frequency | kHz | | | 130 |
| Efficiency at light loads | % | | 0.25IoNom | 95.00 |
| Efficiency at medium loads | % | | 0.5IoNom | 95.00 |
| Efficiency at full loads | % | | IoNom | 95.00 |
| MTTF | h | | SN29500 @ 70° | 1 000 000 |
| For active loads or parallel connection | | ✓ | | |
| Drives high capacitive loads | | ✓ | | |
| CC/CV battery load characteristic | | ✓ | | |

COMPLIANCE

| parameter | fulfilled | notes |
|---|-----------|-------------|
| 61000-6-2 (EMC-Immunity standard for industrial environment) | ✓ | |
| 61000-4-2 (immunity against ESD-electrostatic discharge) | ✓ | |
| 61000-4-3 (immunity High frequency electromagnetic fields) | ✓ | up to 50V/m |
| 61000-4-4 (immunity against burst – electrical fast transients) | ✓ | |
| 61000-4-5 (immunity against surge - high energy surges) | ✓ | |
| 61000-4-6 (immunity against induced, conducted disturbances) | ✓ | |
| 61000-6-4 (EMC – Emission standard for industrial environment) | ✓ | |
| 55022<A | ✓ | |

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INPUT

| parameter | unit | conditions | min | typ | max |
|------------------------|------|------------|-----|------|-----|
| Input voltage range | VDC | IoNom | 50 | 80 | 160 |
| Max. input current | A | UiNom | | 10 | |
| Input start up voltage | VDC | UiNom | | 45.0 | |
| Undervoltage lockout | VDC | UiNom | | 40.0 | |

OUTPUT

| parameter | unit | conditions | min | typ | max |
|--|------|------------|-----|------------|-----|
| Output voltage | VDC | IoNom | | 48.0 | |
| Minimum required load to obtain the specified output voltage | % | UiNom | | 0 | |
| Output voltage accuracy | % | IoNom | | +/-2.00% | |
| Output voltage overshoot at initial switch-on | % | IoNom | | overdamped | |
| Rated output power | W | | | 480 | |

CONTROL

| parameter | unit | conditions | min | typ | max |
|------------------------|------|------------|-----|-----|-----|
| Initial switch on time | ms | IoNom | | 50 | |
| Softstart ramp up time | ms | IoNom | | 25 | |

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MECHANICAL

| parameter | unit | |
|--------------------|------|----------|
| Overall dimensions | mm | 90x90x26 |
| Weight | g | 380 |

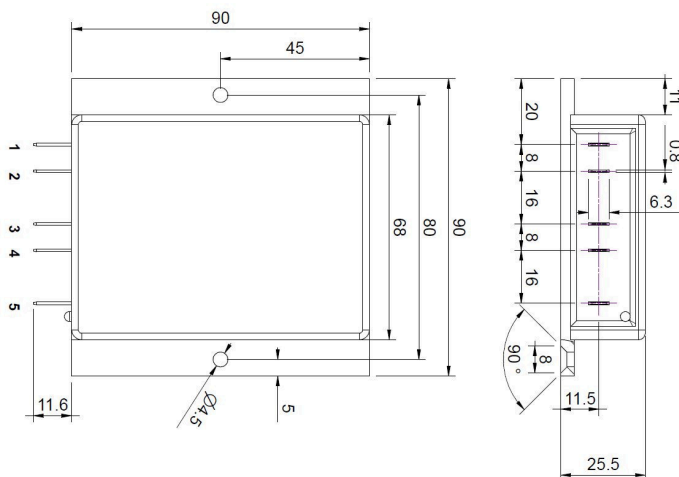
| Pin No. | Function | Electrical Determination |
|---------|----------|--------------------------|
| 1 | On | Enable |
| 2 | Vi+ | Input voltage positive |
| 3 | Vi- | Input voltage negative |
| 4 | Vo- | Output voltage negative |
| 5 | Vo+ | Output voltage positive |

Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: Flat pin plug 6.3mm

Case: FMC 90x90x26



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