

354W1-24-SD

90 Watt, isolated, single output buck-boost converter
All parameters defined on Ta=25°C, IoNom = 3.8 ADC and UiNom = 80VDC

ABSOLUTE MAXIMUM RATINGS

| parameter | unit | typ |
|---|------|--------|
| Input peak voltage | VDC | 170.00 |
| Feedback protection against overvoltage on the output | VDC | 36 |

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 | min to max |
|--|------|-----------|------------|
| Option shut down [left open for operation] | | ✓ | |

SPECIALS

| parameter | unit | fulfilled | conditions | typ |
|--|------|-----------|------------|--------------------------|
| Switching frequency | kHz | | | 120 |
| Efficiency at medium loads | % | | 0.5IoNom | 91.00 |
| Efficiency at full loads | % | | IoNom | 90.00 |
| For active loads or parallel connection | | ✓ | | |
| Drives high capacitive loads | | ✓ | | |
| Coupling capacitance input to output | nF | | | transformer winding only |
| Insulation strength primary to secondary | VDC | | | 500 |

COMPLIANCE

| parameter | fulfilled | notes |
|---|-----------|-------|
| 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 | ✓ | |
| 50155 | ✓ | |

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INPUT

| parameter | unit | conditions | min | typ | max |
|---|-------|-------------|-----|------|-----|
| Input voltage range | VDC | IoNom | 16 | 80 | 160 |
| No load input current | mA | UiNom | | 27 | |
| Max. input current | A | UiNom | | 6 | |
| Input start up voltage | VDC | UiNom | | 15.5 | |
| Undervoltage lockout | VDC | UiNom | | 13.5 | |
| Input quiescent current in shutdown mode | mA | UiNom | | 3.00 | |
| Input current overshoot during soft start ramp up | % | IoNom | | 100 | |
| Generated AC-ripple on the supply [BW=20MHz] | mVp-p | UiNom/IoNom | | 600 | |
| Generated HF-noise on the supply [BW=20MHz] | mVp-p | UiNom/IoNom | | 100 | |
| Typical input noise slew rate [BW=500MHz] | mVp-p | UiNom/IoNom | | 580 | |

OUTPUT

| parameter | unit | conditions | min | typ | max |
|--|-------|-------------|-----|------------|-----|
| Output voltage | VDC | IoNom | | 24.0 | |
| No Load output voltage increase | % | UiNom | | 4 | |
| Minimum required load to obtain the specified output voltage | % | UiNom | | 0 | |
| Generated AC-ripple on the output [BW=20MHz] | mVp-p | UiNom/IoNom | | 80 | |
| Generated HF-noise on the output [BW=20MHz] | mVp-p | UiNom/IoNom | | 600 | |
| Typical output noise slew rate [BW=500MHz] | mVp-p | UiNom/IoNom | | 265 | |
| Output voltage accuracy | % | IoNom | | +/-2.00% | |
| Output voltage overshoot at initial switch-on | % | IoNom | | overdamped | |
| Rated output power | W | | | 90 | |

CONTROL

| parameter | unit | conditions | min | typ | max |
|------------------------------------|------|---------------------|-----|----------|-----|
| Static line regulation | % | IoNom/UiMin...UiMax | | 0.02 | |
| Static load regulation | % | IoMin...IoMax/UiNom | | 1.4 | |
| Dynamic load change adjusting time | ms | LoadChange 10...90% | | 0.30 | |
| Maximum admissible capacitive load | uF | IoNom | | infinite | |
| Initial switch on time | ms | IoNom | | 35 | |
| Softstart ramp up time | ms | IoNom | | 15 | |

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MECHANICAL parameter

| parameter | unit | |
|--------------------|------|----------|
| Overall dimensions | mm | 77x52x19 |
| Weight | g | 166 |

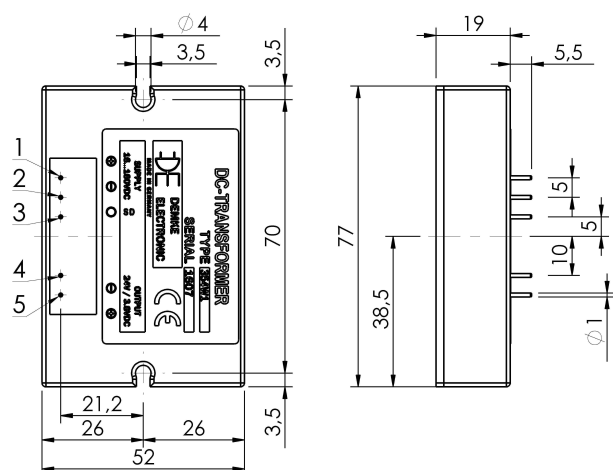
| Pin No. | Function | Electrical Determination |
|---------|----------|--------------------------|
| 1 | Vi+ | Input voltage positive |
| 2 | Vi- | Input voltage negative |
| 3 | SD | Shut down |
| 4 | Vo- | Output voltage negative |
| 5 | Vo+ | Output voltage positive |

Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: THT

Case: FMC 77x52x19



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