# TECHNICAL DATASHEET

## 739-92-SD

800 Watt, isolated, single output buck-boost converter with internal decoupling diode

All parameters defined on Ta=25°C, IoNom = 8.7 ADC and UiNom = 24VDC

## ABSOLUTE MAXIMUM RATINGS

| parameter | unit | typ |
|---|---|---|
| Input peak voltage | VDC | 38.00 |

## 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 shut down (left open for operation) | | ✓ | | |
| Shutdown voltage for transformer | VDC | | IoNom | -0.2 to 2.8 |

## 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 | 93.00 |
| For active loads or parallel connection | | ✓ | | |
| Drives high capacitive loads | | ✓ | | |
| CC/CV battery load characteristic | | ✓ | | |
| Coupling capacitance input to output | nF | | | transformer winding only |
| Insulation strength primary to secondary | VDC | | | 2100 |
| Insulation strength primary to case | VDC | | | 2100 |

## 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) | ✓ | |
| 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 | 22 | 24 | 36 |
| No load input current | mA | UiNom | | 190 | |
| Max. input current | A | UiNom | | 41 | |
| Input start up voltage | VDC | UiNom | | 22.0 | |
| Undervoltage lockout | VDC | UiNom | | 20.5 | |
| Input quiescent current in shutdown mode | mA | UiNom | | 3.00 | |
| Input current overshoot during soft start ramp up | % | IoNom | | 10 | |
| Input capacitor load peak current at initial switch on | A | UiNom | | 10 | |
| Generated AC-ripple on the supply (BW=20MHz) | mVp-p | UiNom/IoNom | | 50 | |
| Generated HF-noise on the supply (BW=20MHz) | mVp-p | UiNom/IoNom | | 30 | |

## OUTPUT

| parameter | unit | conditions | min | typ | max |
|---|---|---|---|---|---|
| Output voltage | VDC | IoNom | | 92.3 | |
| No Load output voltage increase | % | UiNom | | 4 | |
| Minimum required load to obtain the specified output voltage | % | UiNom | | 5 | |
| Generated AC-ripple on the output (BW=20MHz) | mVp-p | UiNom/IoNom | | 15 | |
| Generated HF-noise on the output (BW=20MHz) | mVp-p | UiNom/IoNom | | 20 | |
| Output voltage accuracy | % | IoNom | | +/-2.50% | |
| Output voltage overshoot at initial switch-on | % | IoNom | | overdamped | |
| Rated output power | W | | | 800 | |

## CONTROL

| parameter | unit | conditions | min | typ | max |
|---|---|---|---|---|---|
| Static line regulation | % | IoNom/UiMin...UiMax | | 0.10 | |
| Static load regulation | % | IoMin...IoMax/UiNom | | 0.8 | |
| Maximum admissible capacitive load | uF | IoNom | | infinite | |
| Initial switch on time | ms | IoNom | | 300 | |
| Softstart ramp up time | ms | IoNom | | 30 | |
| Restart time after undervoltage lockout | ms | IoNom | | 270 | |



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## MECHANICAL

| parameter | unit | |
|---|---|---|
| Overall dimensions | mm | 130x130x28 |
| Weight | g | 1200 |

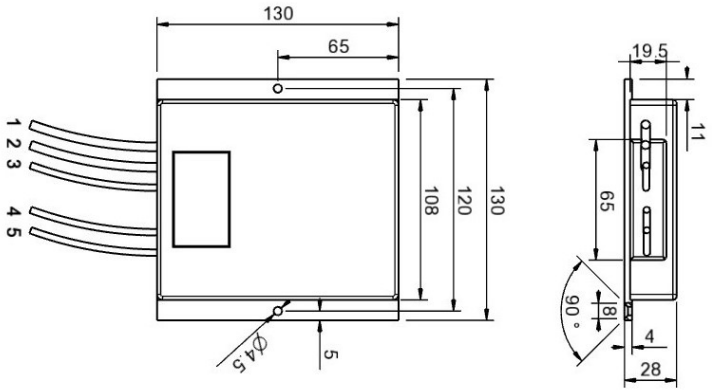
| Pin No. | Function | Electrical Determination | Colour | Cross-Section | Cable length |
|---|---|---|---|---|---|
| 1 | Vi+ | Input voltage positive | red | 10 mm² | 1000 mm |
| 2 | Vi- | Input voltage negative | black | 10 mm² | 1000 mm |
| 3 | SD | Shut down | blue | 1,5 mm² | 1000 mm |
| 4 | Vo- | Output voltage negative | black | 2.5 mm² | 1000 mm |
| 5 | Vo+ | Output voltage positive | red | 2.5 mm² | 1000 mm |

### Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: cable

Case: FMC 130x130x28




**This datasheet is preliminary. Specs may vary.**



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