

- +/-10% Input Range
- Low Ripple and Noise
- Up to 6kV Isolation (see notes)
- 7 Pin SIL and 14 Pin DIL Package Styles
- Non Conductive Black Plastic Case
- Option Also For Single Output Models (SA type)
- High Efficiency up to 80%
- -40 to +85 °C Operational Temperature Range



Specification (typical values shown)

| | |
|-------------------------------|---|
| Input Ranges..... | 5 Volts, 12 Volts, 24 Volts, 48 Volts (+/-10%) |
| Outputs..... | Dual matched outputs (see table below) |
| Line Regulation..... | +/-1.2% per 1% Vin change |
| Load Regulation..... | +/-10% from 20-100% load (3.3V models are +/-20%) |
| Efficiency..... | See table for each model |
| Isolation Voltage..... | IP~OP: 1000 VDC (up to 6kV available, see notes) |
| Operating Temperature..... | -40 to +85 °C @ full load |
| Storage Temperature..... | -40 to +125 °C |
| Maximum Case Temperature..... | 100 °C |
| Case/Base Material..... | Non-conductive black plastic (UL94V-0 rated) |
| Switching Frequency..... | 80 kHz (variable) |
| Ripple & Noise..... | 75 mV pk-pk (20 Mhz bandwidth) |
| Safety..... | IEC60950-1:2001 (for SIP series) |
| MTBF..... | >1.121 Mhrs (MIL-HDBK-217F) calculated |

Models and Ratings (Dual Output Single in Line Package Versions)

| Model (5V input) | Model (12V input) | Model (24V input) | Model (48V input) | Output (VDC) | Output Current | Efficiency |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------|----------------|------------|
| ECO0503S | ECO1203S | ECO2403S | ECO4803S | +/-3.3 V | +/-151 mA | 60 ~ 68% |
| ECO0505S | ECO1205S | ECO2405S | ECO4805S | +/-5.0 V | +/-100 mA | 70 ~ 74% |
| ECO0507S | ECO1207S | ECO2407S | ECO4807S | +/-7.2 V | +/-69 mA | 70 ~ 77% |
| ECO0509S | ECO1209S | ECO2409S | ECO4809S | +/-9.0 V | +/-56 mA | 72 ~ 78% |
| ECO0512S | ECO1212S | ECO2412S | ECO4812S | +/-12.0 V | +/-42 mA | 74 ~ 78% |
| ECO0515S | ECO1215S | ECO2415S | ECO4815S | +/-15.0 V | +/-33 mA | 74 ~ 80% |
| ECO0518S | ECO1218S | ECO2418S | ECO4818S | +/-18.0 V | +/-28 mA | 72 ~ 80% |
| ECO0524S | ECO1224S | ECO2424S | ECO4824S | +/-24.0 V | +/-21 mA | 70 ~ 80% |

Notes:

For 2kV isolation versions, add suffix "H2" to the part number e.g. ECO2405SH2

For 3kV isolation versions, these become ECVxxxxS Series

For 4kV, 5.2kV and 6kV isolation add suffix "H4", "H5" or "H6" accordingly

For DIL (dual in line) versions, change part from ECOxxxxS to ECOxxxxD

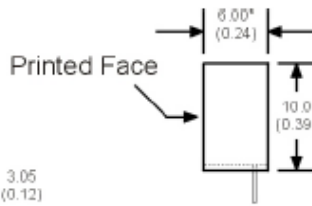
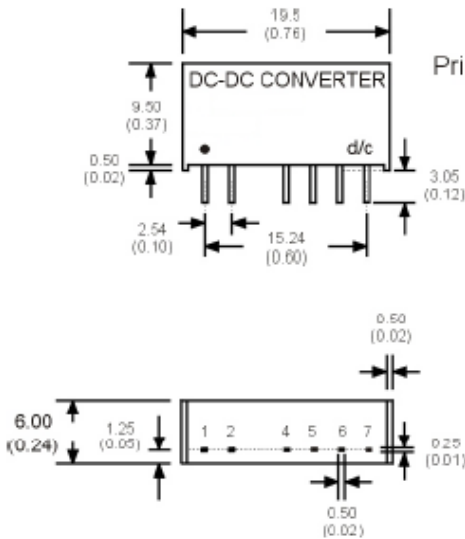
* For single output versions, add extra suffix "A" to the part number e.g. ECO2405SA (output current will be double that shown in the table above)

For mechanical data and pinout, see next page

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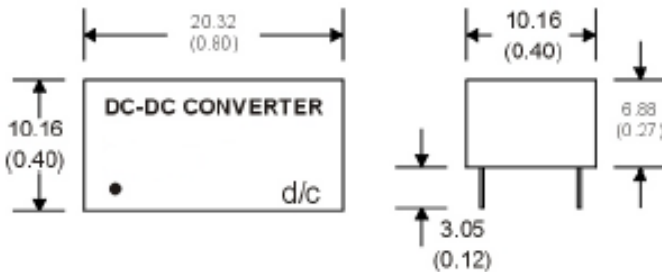
Mechanical Details and Pin-Out (SIL Versions)



* The 48V Input model is 7.2mm deep

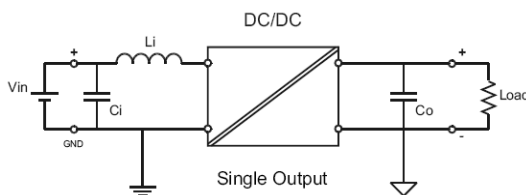
| Pin | Single O/P | Dual O/P | Single O/P - H | Dual O/P-H |
|-----|------------|----------|----------------|------------|
| 1 | +V in | +V in | +V in | +V in |
| 2 | -V in | -V in | -V in | -V in |
| 4 | -V out | -V out | No pin | No pin |
| 5 | No pin | Common | -V out | -V out |
| 6 | +V out | +V out | No pin | Common |
| 7 | No pin | No pin | +V out | +V out |

Mechanical Details and Pin-Out (DIL Versions)



| Pin | Single O/P | Dual O/P | Single O/P - H | Dual O/P-H |
|-----|------------|----------|----------------|------------|
| 1 | -V in | -V in | -V in | -V in |
| 7 | N/C | N/C | N/C | N/C |
| 8 | No pin | Common | +V out | +V out |
| 9 | +V out | +V out | No pin | Common |
| 10 | No pin | No pin | -V out | -V out |
| 11 | -V out | -V out | No pin | No pin |
| 14 | +V in | +V in | +V in | +V in |

Ripple and Noise filter circuit



To reduce ripple and noise, it is recommended to add a 4.7 μ F~100 μ F capacitor to the output (+/-4. μ F ~ +/-68 μ F for dual output versions). For EMI performance improvement, it is recommended to add a 12 μ H inductor and a 10 μ F ~ 100 μ F capacitor to the input.

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