

## FEATURES:

- Wide input range
- Continuous short-circuit protection, self recover
- I/O isolation voltage 2250V
- Shell operating temperature:  $-40^{\circ}\text{C} \sim +100^{\circ}\text{C}$
- No additional components required
- Stable performance and high reliability (MTBF $\geq 1000\text{K}$  hours)
- Industry standard pin-out
- Industry standard 1/2 brick package



## Selection Guide

| Part No.      | INPUT                   |                        | OUTPUT                    |             |                           |             | Capacitive Load ( $\mu\text{F}$ ) |
|---------------|-------------------------|------------------------|---------------------------|-------------|---------------------------|-------------|-----------------------------------|
|               | Normal ( $\text{Vdc}$ ) | Range ( $\text{Vdc}$ ) | Voltage ( $\text{V1dc}$ ) | current (A) | Voltage ( $\text{V2dc}$ ) | current (A) |                                   |
|               | 24                      | 18-36                  |                           |             | CTRL                      |             |                                   |
| LD500Q-24S12N |                         |                        | 12                        | 42          | Negative Logic            |             |                                   |
| LD500Q-24S15N |                         |                        | 15                        | 34          | Negative Logic            |             |                                   |
| LD500Q-24S24N |                         |                        | 24                        | 21          | Negative Logic            |             |                                   |
| LD500Q-24S28N |                         |                        | 28                        | 18          | Negative Logic            |             |                                   |

\*\*customized accepted, pls contact sales for details\*\*

## Input Specifications

|                     |     |                                                |          |           |
|---------------------|-----|------------------------------------------------|----------|-----------|
| Input Voltage Range |     | Input Voltage Range (Vdc)                      | Nom(Vdc) | Max (Vdc) |
|                     |     | 18-36                                          | 24       | 36        |
| Input Filter        |     | Capacitive Filter                              |          |           |
| Ctrl                |     | NONE                                           |          |           |
|                     |     | NONE                                           |          |           |
| Hot Plug            |     | Unavailable                                    |          |           |
| CTRL Pin            | ON  | ON/OFF pin open or pulled high (TTL 3.5-12VDC) |          |           |
|                     | OFF | ON/OFF pin pulled low to GND(0-1.2VDC)         |          |           |
|                     |     | Input current when off:25mA(typ),40mA(max)     |          |           |

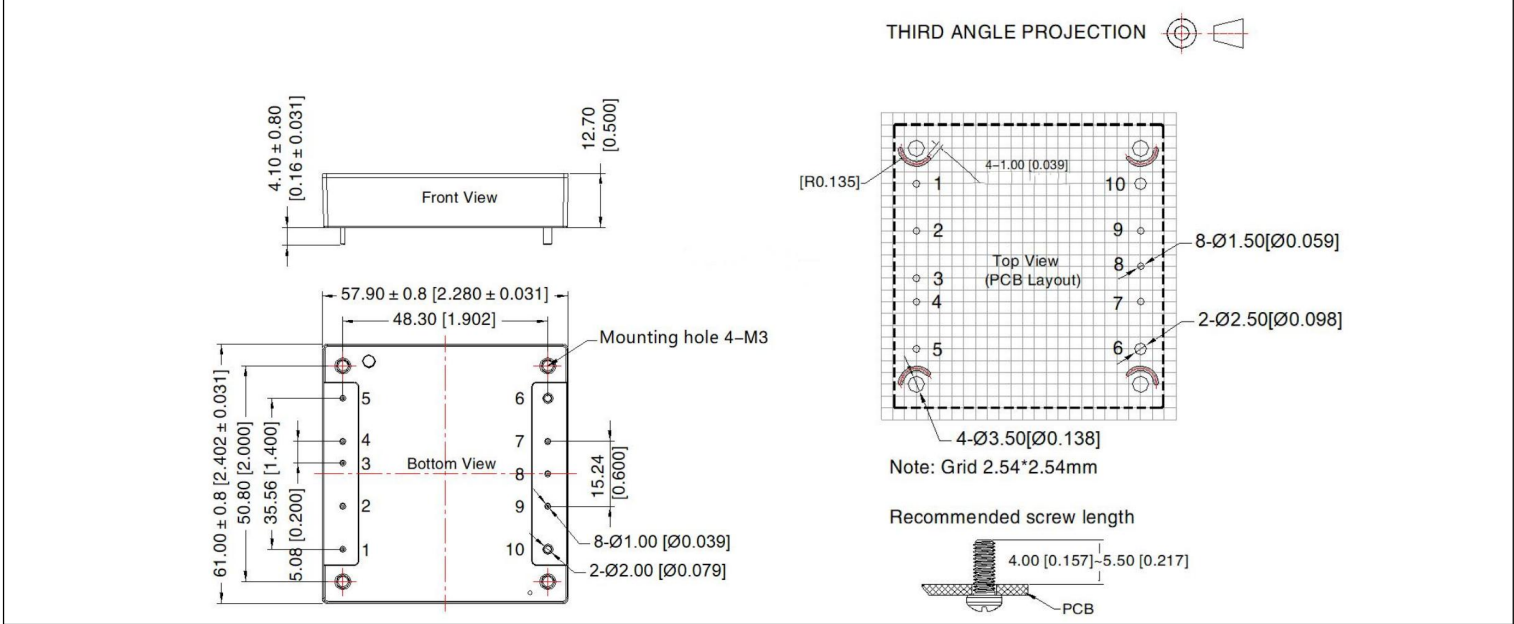
## Output Specifications

| Item                     | Min                       | Typ                           | Max                     | Test Conditions                                       |
|--------------------------|---------------------------|-------------------------------|-------------------------|-------------------------------------------------------|
| Voltage Accuracy         | -                         | $\pm 1\%$                     | $\pm 3\%$               | 0% -100% load                                         |
| Line Regulation          | -                         | $\pm 0.2\%$                   | $\pm 0.5\%$             | Input voltage variation from low to high at full load |
| Load Regulation          | -                         | $\pm 0.25\%$                  | $\pm 0.75\%$            | 5% -100% load                                         |
| TRIM Range               | -                         | -                             | $\pm 10\%$              |                                                       |
| Temperature Regulation   | -                         | $\pm 0.03\%/^{\circ}\text{C}$ |                         |                                                       |
| Over Current Protect     | 110%                      | -                             | 160%                    |                                                       |
| Over Voltage Protect     | 110%                      | -                             | 140%                    |                                                       |
| Over Temperature Protect | 110%                      | 115%                          | 125%                    |                                                       |
| Short Circuit Protect    | Continuous, self-recovery |                               |                         |                                                       |
| Dynamic Response         |                           |                               | 300 $\mu\text{S}$ (typ) |                                                       |

| General Specifications |            |                                                                                                                                |
|------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------|
| Isolation Resistor     | 100MΩ      | Input-Output                                                                                                                   |
| Isolation Voltage      | 2250VDC    | Input-Output                                                                                                                   |
|                        | 2250VDC    | Input-Case                                                                                                                     |
|                        | 500VDC     | Output-Case                                                                                                                    |
| Switching Frequency    | 280KHz     | Mil HDBK 217F Tc=25℃                                                                                                           |
| MTBF                   | 1000K Hrs  |                                                                                                                                |
| Case Temperature       | -40~+100℃  |                                                                                                                                |
| Storage Temperature    | -55~+125℃  |                                                                                                                                |
| Relative Humidity      | 10%-90%RH  |                                                                                                                                |
| Pin Solder Temperature | 300℃       | Soldering spot is 1.5mm away from case for 10 seconds                                                                          |
| Hand Soldering Time    | 5s         | Iron Temperature 425℃                                                                                                          |
| Vibration              |            | Sine, 10Hz-55Hz, amplitude 0.35mm, X, Y, Z three directions 30min each                                                         |
| Shock                  |            | Half-sine, peak acceleration is 300m/s², standard pulse duration is 6ms, X, Y, Z three 6 consecutive shocks in each direction; |
| Weight                 | 125g (Typ) |                                                                                                                                |

\*\*Unless specified, otherwise all other parameters are tested under the following conditions: nominal input voltage, pure resistive load, 25℃ room temperature environment.

Dimensions and Recommended Layout

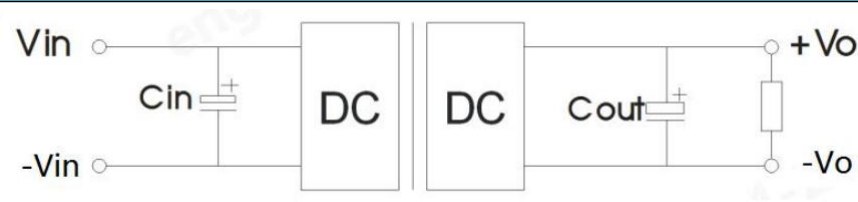


Note:  
Unit: mm[inch]  
Pin1, 2, 3, 4, 5, 7, 8, 9diameter: 1.00[0.039]  
Pin6, 10diameter: 2.00[0.079]  
Pin diameter tolerances:  $\pm 0.10[\pm 0.004]$   
General tolerances:  $\pm 0.50[\pm 0.020]$   
Mounting hole screwing torque: Max 0.4 N · m

Pins

| Pin-Out | Mark     |    |        |
|---------|----------|----|--------|
| 1       | +Vin     | 6  | -Vo    |
| 2       | ON/OFF   | 7  | Sense- |
| 3       | Share(+) | 8  | Trim   |
| 4       | Share(-) | 9  | Sense+ |
| 5       | -Vin     | 10 | +Vo    |

Recommended Circuit



| Capacitance value | Cout(min.) | Cin        |
|-------------------|------------|------------|
| Output voltage    |            |            |
| 12V/15V/24V/28V   | 470μF/35V  | 220 μF/63V |

\*The final interpretation right of the product belongs to ECCO ELECTRONICS\*