

### FEATURES

1. Wide input voltage range: 36-75 VDC
2. High efficiency up to 91%
3. I/O isolation test voltage 1.5k VDC
4. Input under-voltage protection, output short-circuit, over-current, over-voltage, over-temperature protection
5. Operating ambient temperature range -40°C to +85°C
6. International standard pin mode
7. International standard 1/8 brick



3 years  
Warranty

### Selection Guide

| Product Model     | Input Voltage<br>(Range)<br>VDC | Output Voltage<br>VDC | Output Current<br>@ Full Load<br>mA | Output Efficiency<br>Min/Typ<br>% | Capacitive Load<br>(Max)<br>μF |
|-------------------|---------------------------------|-----------------------|-------------------------------------|-----------------------------------|--------------------------------|
| GT4803EBO-100WR3  | 48<br>(36~75VDC)                | 3.3                   | 15000                               | 92                                | 10000                          |
| GT4803EBO-100WIR3 |                                 | 3.3                   | 20000                               | 90                                | 10000                          |
| GT4805EBO-100WR3  |                                 | 5                     | 20000                               | 92                                | 4000                           |
| GT4805EBO-100WIR3 |                                 | 5                     | 20000                               | 92                                | 4000                           |
| GT4812EBO-100WR3  |                                 | 12                    | 8333                                | 91                                | 3300                           |
| GT4812EBO-100WIR3 |                                 | 12                    | 8333                                | 91                                | 3300                           |

### Input Specifications

| Parameter                | Condition                                                          |                 | Min  | Typ | Max  | Unit |
|--------------------------|--------------------------------------------------------------------|-----------------|------|-----|------|------|
| Input Current            | Full load(V <sub>min</sub> , V <sub>nom</sub> , I <sub>nom</sub> ) | 3.3V output     | -    | -   | 2400 | mA   |
|                          |                                                                    | 5V output       | -    | -   | 3600 |      |
|                          |                                                                    | 12V output      | -    | -   | 3400 |      |
|                          | Unloaded (V <sub>nom</sub> , I <sub>o</sub> =0A)                   |                 | -    | -   | 100  |      |
|                          | Static state(V <sub>nom</sub> , CNT turns off the output)          |                 | -    | -   | 10   |      |
| Surge Voltage            | 36 to 75VDC Input series                                           |                 | -    | -   | 80   | VDC  |
| Start-up Voltage         | 36 to 75VDC Input series                                           |                 | -    | -   | 36   |      |
| Under-voltage Protection | Close output (self-recovery)                                       | 3.3V/12V output | 31   | 33  | 34   |      |
|                          |                                                                    | 5V output       | 30   | 32  | 34   |      |
| Start-up Time            | Nominal input voltage and constant resistance load                 | 3.3V output     | -    | 12  | 20   | mS   |
|                          |                                                                    | 5V output       | -    | 12  | 30   |      |
|                          |                                                                    | 12V output      | -    | 15  | 25   |      |
| CNT logic control        | Low level                                                          |                 | -0.7 | -   | 1.2  | VDC  |
|                          | High level                                                         |                 | 3.5  | -   | 20   |      |
|                          | Remote control current                                             |                 | -    | -   | 2    | mA   |

## Output Specifications

| Parameter                    | Condition                                                                                                                                                                                                                               |                | Min                       | Typ  | Max   | Unit  |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------|------|-------|-------|
| Voltage Accuracy             | Full load range                                                                                                                                                                                                                         | 3.3V output    | -                         | -    | ±1.2  | %     |
|                              |                                                                                                                                                                                                                                         | 5V output      | -                         | -    | ±1.6  |       |
|                              |                                                                                                                                                                                                                                         | 12V output     | -                         | -    | ±1    |       |
| Line Regulation              | Rated load                                                                                                                                                                                                                              | 3.3V/5V output | -                         | ±0.2 | ±0.5  |       |
|                              |                                                                                                                                                                                                                                         | 12V output     | -                         | ±0.2 | ±0.4  |       |
| Load Regulation              | Vin=48V; Io=0~Inom; TA = 25 °C                                                                                                                                                                                                          | 3.3V/5V output | -                         | ±0.5 | ±1    |       |
|                              |                                                                                                                                                                                                                                         | 12V output     | -                         | ±0.3 | ±0.5  |       |
| Transient Recovery Time      | 25% load step change, nominal input voltage                                                                                                                                                                                             | 3.3V output    | -                         | 50   | 100   | μs    |
|                              |                                                                                                                                                                                                                                         | 5V /12V output | -                         | -    | 200   |       |
| Transient Response Deviation | 25% load step change, nominal input voltage                                                                                                                                                                                             | 3.3V output    | -                         | ±3   | ±5    | %     |
|                              |                                                                                                                                                                                                                                         | 5V/12V output  | -                         | -    | ±5    |       |
| Temperature Coefficient      | Full load                                                                                                                                                                                                                               |                | -                         | -    | ±0.02 | %/°C  |
| Ripple & Noise①              | The output is connected with 10μF tantalum capacitor and 1μF ceramic capacitor. The output capacitance is 50mm to 70mm away from the module pin. When Ta<-5 ° C, it is recommended to add a 220, μF electrolytic capacitor (ESR≤100 mΩ) | 3.3V output    | -                         | 60   | 80    | mVp-p |
|                              |                                                                                                                                                                                                                                         | 5V output      | -                         | 50   | 80    |       |
|                              |                                                                                                                                                                                                                                         | 12V output     | -                         | 50   | 100   |       |
| Trim                         | Input voltage range                                                                                                                                                                                                                     | 3.3V/5V output | -20                       | -    | +10   | %     |
|                              |                                                                                                                                                                                                                                         | 12V output     | -10                       | -    | +10   |       |
| Over-current Protection      | Input voltage range                                                                                                                                                                                                                     | 3.3V output    | 120                       | 147  | 170   | %Io   |
|                              |                                                                                                                                                                                                                                         | 5V output      | 110                       | 125  | 145   |       |
|                              |                                                                                                                                                                                                                                         | 12V output     | 110                       | 127  | 157   |       |
| Over-voltage Protection      | Input voltage range                                                                                                                                                                                                                     | 3.3V output    | 115                       | 118  | 121   | %Vo   |
|                              |                                                                                                                                                                                                                                         | 5V output      | 115                       | 118  | 123   |       |
|                              |                                                                                                                                                                                                                                         | 12V output     | 115                       | 120  | 127   |       |
| Short-circuit Protection     | Short-circuit fault removal is self-restoring                                                                                                                                                                                           |                | Sustainable, self-healing |      |       |       |
| Over-temperature protection  | Close output (self-recovery)                                                                                                                                                                                                            | 3.3V/5V output | 110                       | 118  | 130   | °C    |
|                              |                                                                                                                                                                                                                                         | 12V output     | 110                       | 120  | 130   |       |
|                              | Return difference                                                                                                                                                                                                                       |                | -                         | 20   | -     |       |

## General Specifications

| Parameter             | Condition                                                       | Min  | Typ  | Max  | Unit    |
|-----------------------|-----------------------------------------------------------------|------|------|------|---------|
| Isolation Voltage     | Input-output, leakage current less than 1mA, test time 1 minute | 1500 | -    | -    | VDC     |
| Operating Temperature |                                                                 | -40  | -    | +85  | °C      |
| Storage Temperature   |                                                                 | -55  | -    | +125 |         |
| Storage Humidity      | Non-condensing                                                  | 5    | -    | 95   | %RH     |
| MTBF                  | Ta=25°C, Telcordia SR-332                                       | -    | 2000 | -    | K hours |

### Mechanical Specifications

|        |                       |                             |
|--------|-----------------------|-----------------------------|
| Size   | No heat sink          | 57.94mm × 22.81mm × 9.80mm  |
|        | With type I heat sink | 57.94mm × 22.81mm × 12.70mm |
| Weight | No heat sink          | 20.0g(Typ.)                 |
|        | With type H heat sink | 40.0g(Typ.)                 |

### Characteristic Curves

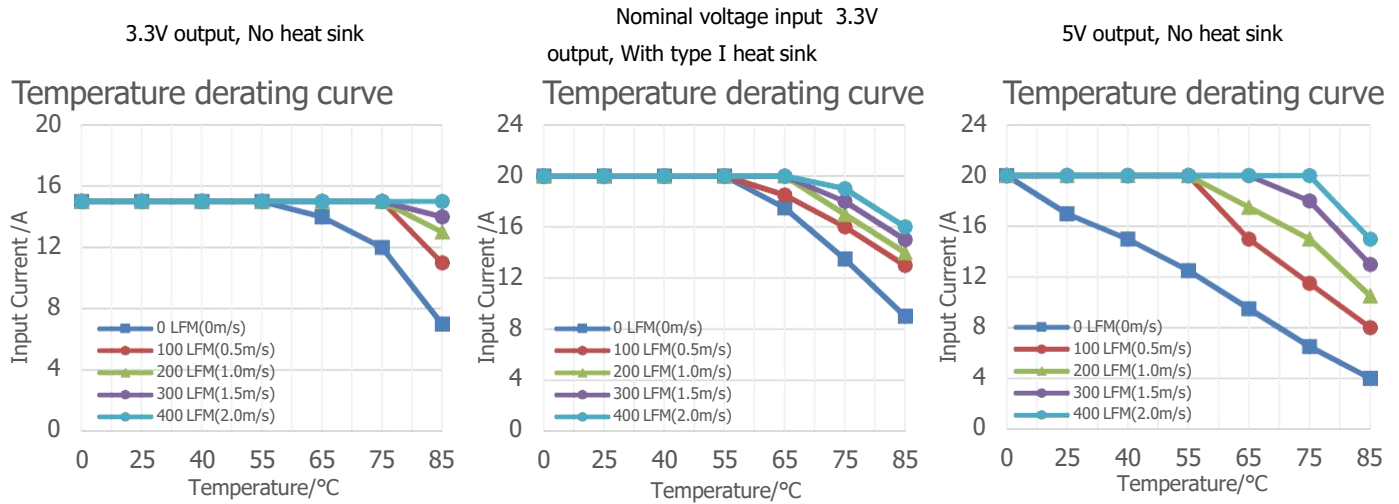


Figure 1

### Design References

#### Application circuit

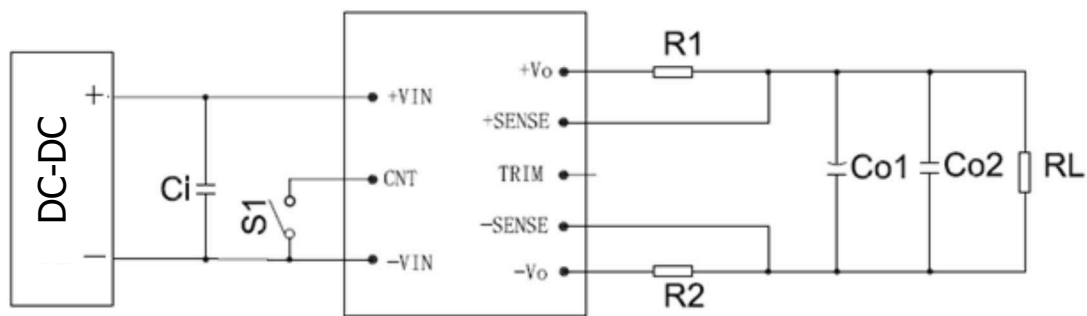


Figure 2

| Vout (VDC) | Ci         | Co1       | Co2     |
|------------|------------|-----------|---------|
| 3.3        | 100μF/100V | 470μF/25V | 1μF/25V |
| 5          | 150μF/100V | 100μF/16V |         |
| 12         | 100μF/100V | 220μF/25V |         |

Note:

- 1, The output can be connected to the appropriate amount of electrolytic capacitors according to customer demand, but the maximum capacity of each can not exceed 10000uF
- 2, This model is negative logic control, that is, S1 switch short-circuited for normal power output, S1 switch off for output off.

### Dimensions and Recommended Layout

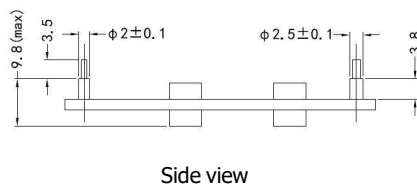
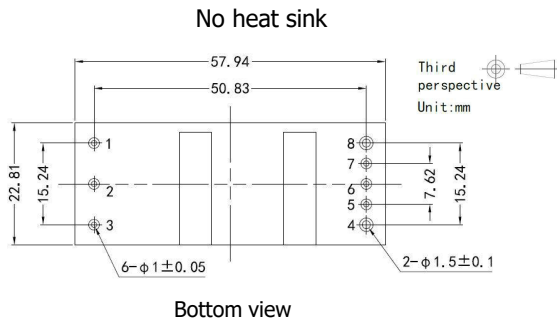


Figure 3

Note:

Size unit: mm

Terminal diameter tolerance:  $\pm 0.10\text{mm}$

Unmarked tolerance:  $\pm 0.50\text{mm}$

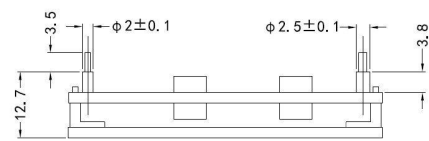
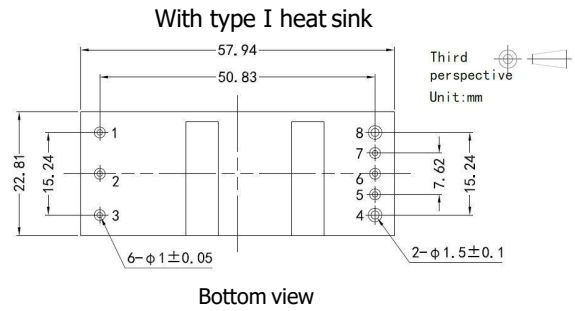


Figure 4

#### Pin definition

| Pin | Mark   | Implication                      |
|-----|--------|----------------------------------|
| 1   | -Vin   | Input negative                   |
| 2   | CNT    | Remote control foot              |
| 3   | +Vin   | Input positive                   |
| 4   | +Vo    | Output positive                  |
| 5   | +SENSE | Positive remote control terminal |
| 6   | Trim   | Voltage regulating terminal      |
| 7   | -SENSE | Negative remote control terminal |
| 8   | -Vo    | Output minus                     |

#### Note:

1. If the product works under the minimum required load, it cannot guarantee that the performance of the product complies with all the performance indicators in this manual;
2. The maximum capacitive load is tested under the input voltage range and full load condition;
3. Unless otherwise stated, all indexes in this manual are measured at  $T_a=25^\circ\text{C}$ , humidity  $<75\%\text{RH}$ , nominal input voltage and rated output load;
4. All index testing methods in this manual are based on the enterprise standards of the company;
5. Our company can provide product customization, specific needs can directly contact our technical staff;