

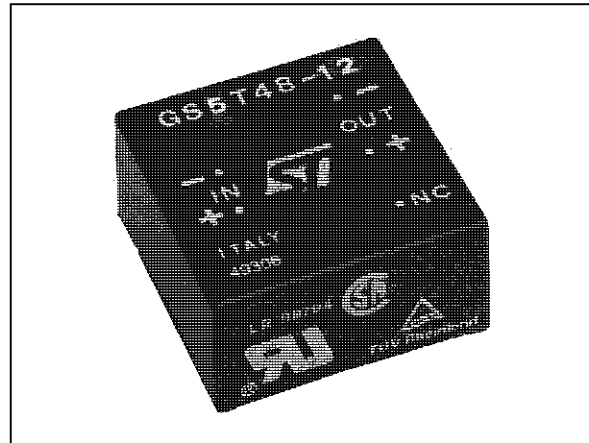
## 5 W DC-DC CONVERTER

| Type      | V <sub>i</sub> | V <sub>o</sub> | I <sub>o</sub> |
|-----------|----------------|----------------|----------------|
| GS5T48-12 | 38 to 60 V     | 12 V           | 420 mA         |

### DESCRIPTION

The GS5T48-12 is a 5W DC-DC converter designed to provide a 12V/420mA isolated power source.

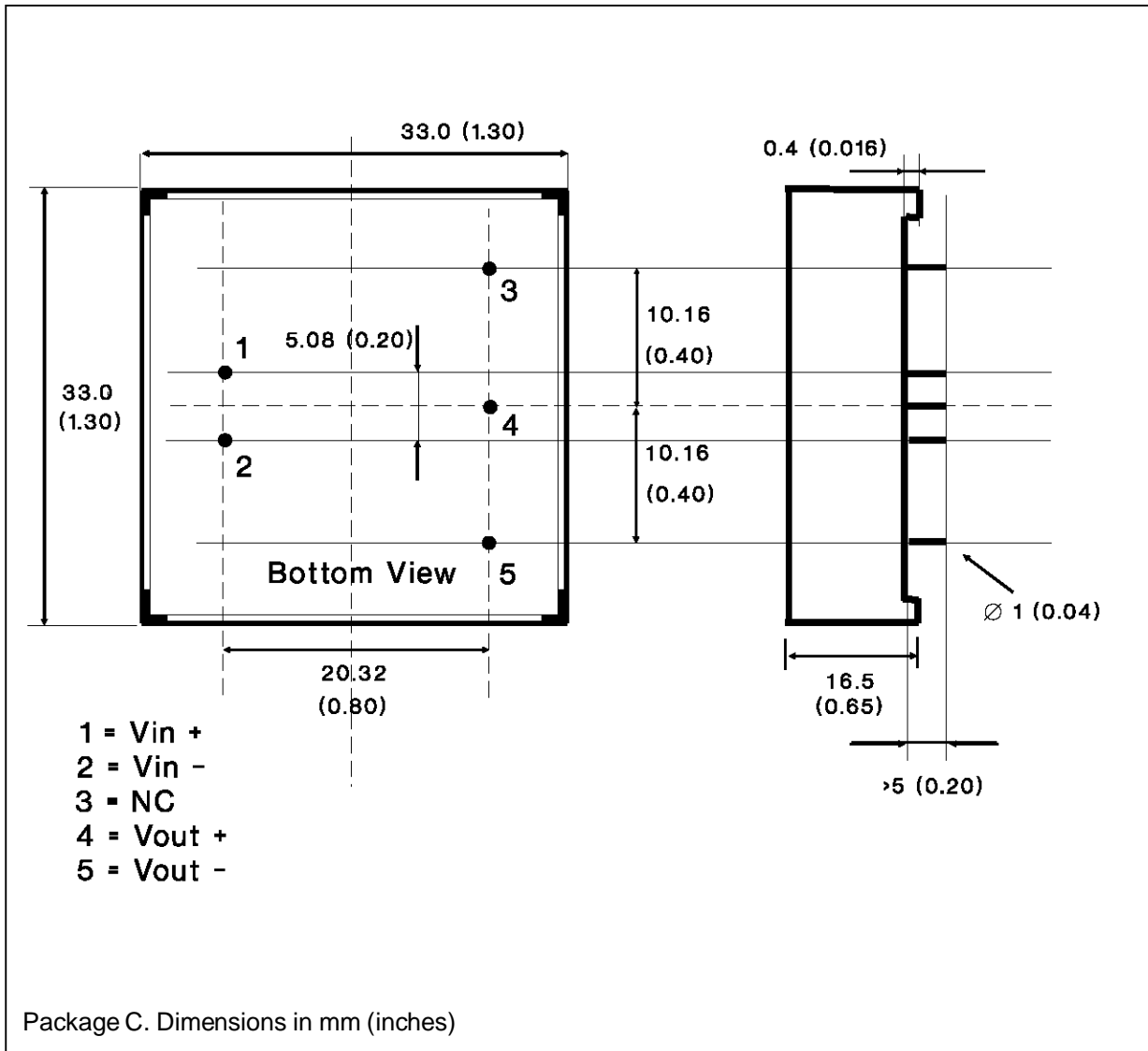
The module features a wide input voltage range (38 to 60V), low reflected input current and continuous short-circuit protection. It is certified by UL, CSA (level 3) and TUV as having SELV output when provided with a SELV input.



### ELECTRICAL CHARACTERISTICS (T<sub>amb.</sub> = 25° C unless otherwise specified)

| Symbol           | Parameter                           | Test Conditions  | Min  | Typ | Max  | Unit |
|------------------|-------------------------------------|--|------|-----|------|------|
| V <sub>i</sub>   | Input Voltage                       | V <sub>o</sub> = 12V I <sub>o</sub> = 50 to 420mA                | 38   | 48  | 60   | V    |
| I <sub>i</sub>   | Input Current                       | V <sub>i</sub> = 38 to 60V I <sub>o</sub> = 420mA                |      |     | 500  | mA   |
| I <sub>ir</sub>  | Input Reflected Current             | V <sub>i</sub> = 48V V <sub>o</sub> = 12V I <sub>o</sub> = 420mA |      | 25  | 40   | mApp |
| V <sub>o</sub>   | Output Voltage                      | V <sub>i</sub> = 38 to 60V I <sub>o</sub> = 50 to 420mA          | 11.5 | 12  | 12.5 | V    |
| V <sub>or</sub>  | Output Ripple Voltage               | V <sub>i</sub> = 48V I <sub>o</sub> = 420mA<br>BW = 5Hz to 20MHz |      | 50  | 100  | mVpp |
| δVOL             | Line Regulation                     | V <sub>i</sub> = 38 to 60V I <sub>o</sub> = 420mA                |      | 1   | 2    | mV/V |
| δVOO             | Load Regulation                     | V <sub>i</sub> = 48V I <sub>o</sub> = 50 to 420mA                |      | 100 | 150  | mV/A |
| I <sub>o</sub>   | Output Current                      | V <sub>i</sub> = 38 to 60V V <sub>o</sub> = 12V                  | 50   |     | 420  | mA   |
| I <sub>osc</sub> | Output Short-circuit Current        | V <sub>i</sub> = 48V   |      |     | 1.8  | A    |
| V <sub>is</sub>  | Isolation Voltage                   |  | 500  |     |      | VDC  |
| f <sub>s</sub>   | Switching Frequency                 | V <sub>i</sub> = 38 to 60V I <sub>o</sub> = 50 to 420mA          | 30   |     | 200  | kHz  |
| η                | Efficiency                          | V <sub>i</sub> = 48V I <sub>o</sub> = 420mA                      | 78   | 80  |      | %    |
| T <sub>op</sub>  | Operating Ambient Temperature Range | Still air  | 0    |     | +60  | °C   |
| T <sub>op</sub>  | Operating Ambient Temperature Range | Forced ventilation, air speed = 100 LFM                          | 0    |     | +70  | °C   |
| T <sub>stg</sub> | Storage Temperature Range           |  | -40  |     | +85  | °C   |

CONNECTION DIAGRAM AND MECHANICAL DATA



SAFETY APPROVALS

The converter is agency certified to the following safety requirements:

| Agency | Requirements             | File Number |
|--------|--------------------------|-------------|
| UL     | UL-STD-1950              | E141284     |
| CSA    | CSA-STD-C22.2 No. 234    | LR 99794-3  |
| TUV    | EN 60950<br>DIN VDE 0805 | R 9172410   |

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