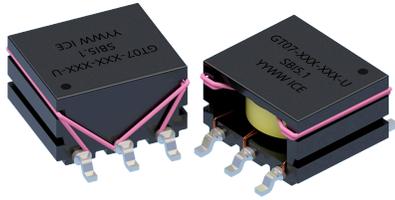


# GT07 Series

## High-Creepage SMT Gate Drive Transformers



- ET products: Up to 60 V- $\mu$ s
- Isolation voltages: 6250 V<sub>AC</sub> & 3750 V<sub>AC</sub>
- Creepage/Clearance: 9.2 mm / 8.0 mm
- Frequency range: 50 kHz to 1 MHz
- Designed to work with TI SN6500 series transformer drivers
- New models meet updated IEC standards (GT07-U)



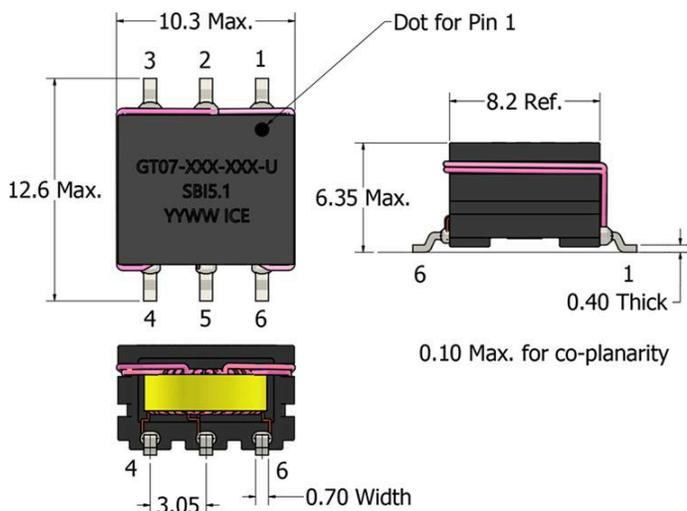
### APPLICATIONS

- Isolated gate drivers
- AC/DC & DC/DC converters
- Push-pull transformer
- Feedback & signal isolation

### ELECTRICAL SPECIFICATIONS @ 25°C

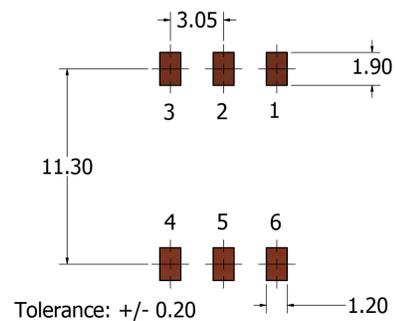
| Part Number    | Turns Ratio (TR) | Drive Inductance <sup>1</sup> ( $\mu$ H, Min) | DCR (Gate:Drive) (m $\Omega$ , Max) | Leakage Ind <sup>1</sup> (Drive) ( $\mu$ H, Max) | ET Product <sup>2</sup> (V- $\mu$ s, Max) | SRF <sup>3</sup> (1-3) (MHz, Typ) | Interwinding Capacitances C <sub>ww</sub> (pF, Typ) | Schematic |
|----------------|------------------|---|-------------------------------------|--|---|-----------------------------------|---|-----------|
| GT07-110-013   | 1 : 1            | 100   | 370 : 300                           | 0.30   | 13  | 7.6                               | 3.00  | A         |
| GT07-110-027   | 1 : 1.1          | 340   | 720 : 530                           | 0.60   | 27  | 4.3                               | 4.60  | B         |
| GT07-120-045   | 1 : 2.57         | 166   | 520 : 720                           | 0.35   | 45  | 2.7                               | 4.67  | B         |
| GT07-110-015-U | 1 : 1            | 145   | 300 : 150                           | 0.50   | 15  | 4.9                               | 3.96  | A         |
| GT07-1X0-031-U | 1 : 1.1          | 480   | 550 : 300                           | 0.80   | 31  | 3.1                               | 7.36  | B         |
| GT07-120-051-U | 1 : 2.5          | 235   | 450 : 450                           | 0.60   | 51  | 2.1                               | 6.16  | B         |
| GT07-130-060-U | 1 : 3.5          | 170   | 550 : 550                           | 0.60   | 60  | 1.7                               | 5.62  | B         |

### MECHANICAL DRAWING

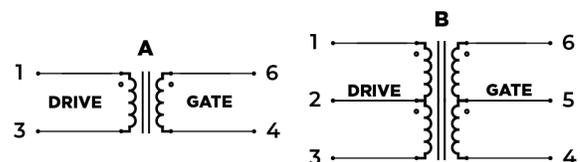


Note: All dimensions are in mm

### RECOMMENDED PCB LAYOUT



### SCHEMATIC



Specifications subject to change without prior notice.

# GT07 Series

## High-Creepage SMT Gate Drive Transformers



### GENERAL DATA

|                                    |                 |  |                      |
|------------------------------------|-----------------|--|----------------------|
| Operating Temperature <sup>4</sup> | -40°C to +130°C | Isolation Voltage (Drive-Gate) <sup>6</sup> (GT07)         | 6250 V <sub>AC</sub> |
| Storage Temperature <sup>5</sup>   | -20°C to +60°C  | Isolation Voltage (Drive-Gate) <sup>6</sup> (GT07-120-045) | 3750 V <sub>AC</sub> |
| Frequency Range                    | 50 kHz to 1 MHz | Isolation Voltage (Drive-Gate) <sup>6</sup> (GT07-U)       | 3750 V <sub>AC</sub> |

- Drive and Leakage Inductance:** Tested at 100kHz, 0.1 V<sub>RMS</sub>
- ET Product:** The maximum ET is based upon a flux density of 2500 Gauss for GT07-U (or 2800 Gauss for GT07) at 25°C. Derate the E-T product rating by 20% for operation at 100°C.
- SRF** values are for reference only.
- Operating Temp.:** The combination of ambient temperature and temperature rise.
- Storage Temp.:** Applies to parts removed from original packaging.
- Hi-Pot Rating:** Tested @ 60Hz, 1mA.
- Suitable for bipolar applications only.

$ET = E_p / 2f$ ,  
where,  $E_p$  = Drive Voltage (V),  $f$  = Frequency (Hz)

### COMPLIANCE

|                    |                              |                        |                 |
|--------------------|------------------------------|------------------------|-----------------|
| Creepage Distance  | 9.2 mm                       | Insulation System      | SBI5.1(Class F) |
| Clearance Distance | 8.0 mm                       | Environmental & Safety | REACH, RoHS     |
| Material Group     | CTI IIIa (175V ≤ CTI < 400V) | Flammability Rating    | UL-94 V-0       |

| Standard                |             | Condition  |
|-------------------------|-------------|--|
| Designed to comply with | IEC 61558-1 | For a working voltage up to <b>920 V<sub>RMS</sub></b> for <b>Basic Insulation</b> and <b>460 V<sub>RMS</sub></b> for <b>Reinforced Insulation</b> ; with Creepage 9.2 mm & Clearance of 8.0 mm, Overvoltage Category II, Pollution Degree 2, and Material Group IIIa.   |
|                         | IEC 62368-1 | For a working voltage up to <b>920 V<sub>RMS</sub> (1.80 kV<sub>PEAK</sub>)</b> for <b>Basic Insulation</b> and <b>460 V<sub>RMS</sub> (1.52 kV<sub>PEAK</sub>)</b> for <b>Reinforced Insulation</b> ; with Creepage 9.2 mm & Clearance of 8.0 mm, Overvoltage Category II, Pollution Degree 2, and Material Group IIIa. |

**Note:** For working voltages over 750 V peak, partial discharge testing may be required.

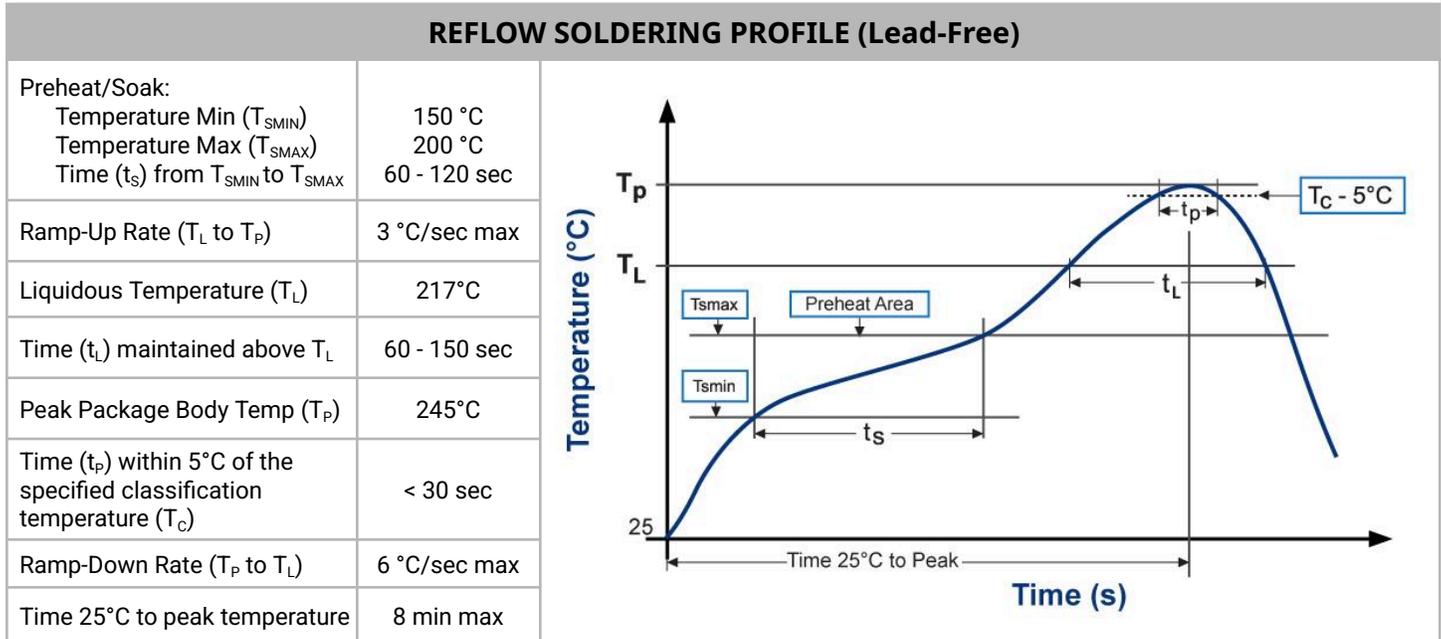
### RELIABILITY TESTING

|   |                         |
|---|-------------------------|
| <p style="text-align: center;"><a href="#">ICE Reliability Standard</a></p> <p>Dry Heat Test, Low Temp Test, Damp Heat Test, High Temp Operational Life, Thermal Shock, Solderability, and Resistance to Soldering Heat</p> | <b>Passed All Tests</b> |
|---|-------------------------|

Specifications subject to change without prior notice.

# GT07 Series

## High-Creepage SMT Gate Drive Transformers



| PACKAGING     |           |
|---------------|-----------|
| Reel Diameter | 13 inches |
| Reel Width    | 24 mm     |
| Pieces/Reel   | 500       |
| Reel/Box      | 8         |
| Pieces/Box    | 4000      |

| COMPONENT LIBRARY                |                                  |
|----------------------------------|----------------------------------|
| <a href="#">AutoCAD 3D Model</a> | <a href="#">SPICE Parameters</a> |
| <a href="#">LTSpice</a>          | <a href="#">PSpice</a>           |
| <a href="#">Altium</a>           | <a href="#">Cadence</a>          |
| <a href="#">EagleCAD</a>         |                                  |

|                         |   |
|-------------------------|---|
| <b>PCB Washing</b>      | See <a href="#">ICE Washability Information</a> .   |
| <b>Application Note</b> | See <a href="#">Applying Gate Drive Transformers in Push-Pull Topology</a>  |
| <b>Series Page</b>      | See <a href="https://www.icecomponents.com/product/gt07-series/">https://www.icecomponents.com/product/gt07-series/</a> |

For questions or additional information, [contact ICE Components](#).