# Gate Drive Transformer
## Ruggedized

- Surface Mount Package - Pick and Place Compatible Ambient
- Operating Temperature: -40ºC to +130ºC
- Stoarge Temperature: -40ºC to +130ºC
- Operating Frequency: 50kHz an up to 600kHz
- >1500VDC Isolation between Gate and Drive Lead Sn/Pb
- Moisture Sensitivity Level: 3

**Electrical Specifications 25ºC**

| Part [3,4] Number | Turns Ratio 50kHz/0.4Vrms (± 3%) | | Inductance 50kHz/0.02Vrms (mH MIN) | Leakage Inductance 100kHz/1.0Vrms (µH MAX) | | DCR (mΩ MAX) | | ET[1] (V*µsec) | Dielectric Withstanding Voltage @5s MIN (Vrms) | |
|---|---|---|---|---|---|---|---|---|---|---|
| PL3057 | (3-6): (1-8) | (4-5) : (1-8) | (1-8) | (1-8) | (3-6) = (4-5) shorted | (1-8) | (3-6) = (4-5) | 27.2 | (1-8) to (3-6) | (1-8) to (4-5) |
| | 0.4 | 0.4 | 1.2 | 910 | 380 | 910 | 380 | | 1500 | 1500 |

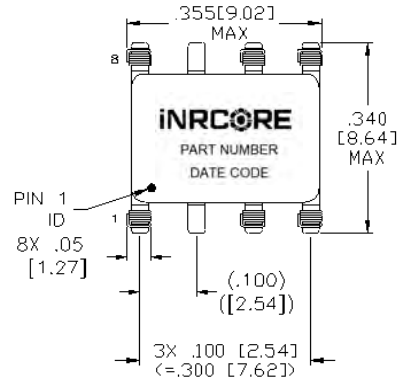
**Notes:**

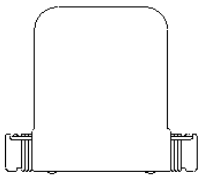
1. The maximum volt-µsec rating limits the peak flux density to 2200 Gauss when used in a unipolar drive application. For bi-polar drive applications a maximum volt-µsec of two times this rating is acceptable (ie: 2* (volt*µsec rating) Volt*µsec = (voltage applied to the primary) * dutycycle / Frequecy = V
   * alpha / Freq_Hz = V * µsec
2. Leakage inductance is measured at primary terminals with all secondaries shorted.
3. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PL3057 becomes PL3057T).
4. The "NL" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechani-cally equivalent to NL versions. If a part number does not have the "NL" suffix, but an RoHS compliant version is required, please contact PulseR for avail-ability.
5. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

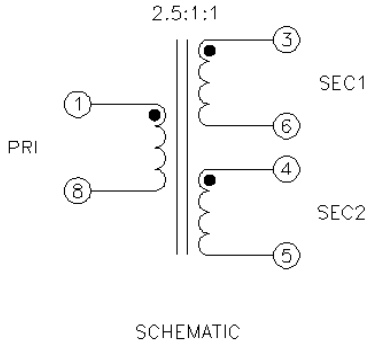
## Mechanical

## Schematic

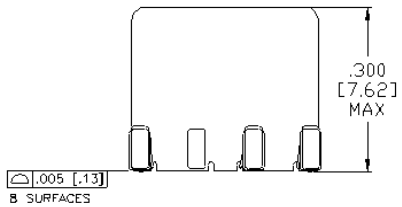
### PL3057

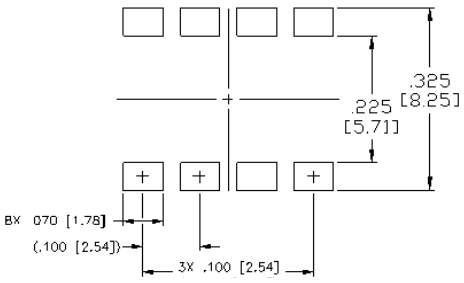




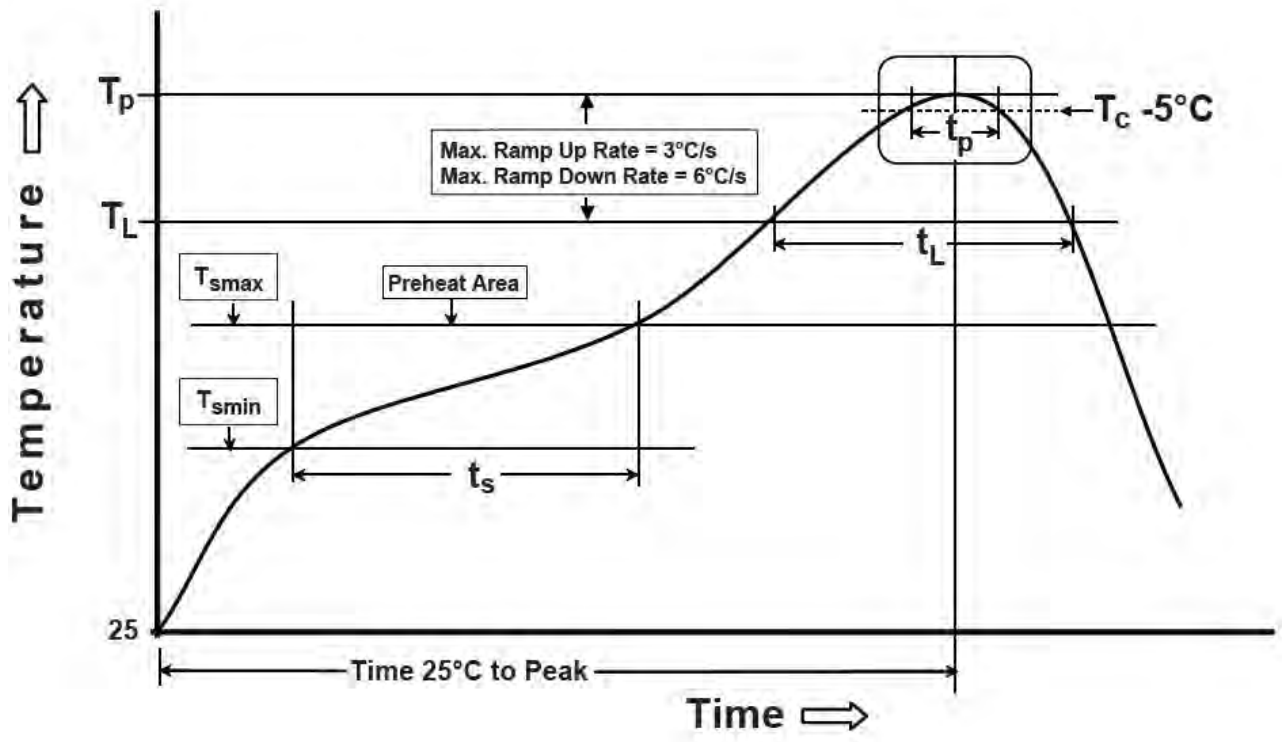

SCHEMATIC




Dimensions: inches[mm]
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$
Weight.....TBD
Tape and Reel.....400pcs/reel
Tube.....50pcs/tube

## Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)




| $T_{SMIN}$ (°C) | $T_{SMAX}$ (°C) | $T_L$ (°C) | $T_P$ (°C MAX) | $t_S$ (s) | $t_L$ (s) | $t_P$ (s MAX) | Ramp-up rate ($T_L$ to $T_P$) | Ramp-down rate ($T_P$ to $T_L$) | Time 25°C to peak temperature (s MAX) |
|---|---|---|---|---|---|---|---|---|---|
| 100 | 150 | 183 | 235 | 60-120 | 60-150 | 20 | 3°C/s MAX | 6°C/s MAX | 360 |

Notes:

1. All temperatures measured on the package leads.
2. Maximum times of reflow cycle: 2.

For More Information

**iNRCORE, LLC**
311 Sinclair Road Bristol, PA
19007-6812 U.S.A.

Tel: +1.215.781.6400
Fax: +1.215.781.6403

**Global Sales Representatives and Locations:**
http://www.inrcore.com