





OFFLINE GATE DRIVE TRANSFORMERS



-  UL and C-UL recognized, TÜV approved components
-  3000Vrms gate to drive winding test
-  Useful operating frequency from 50kHz to 500kHz
-  Most popular winding configurations

Electrical Specifications @ 25°C — Operating Temperature -40°C to 130°C

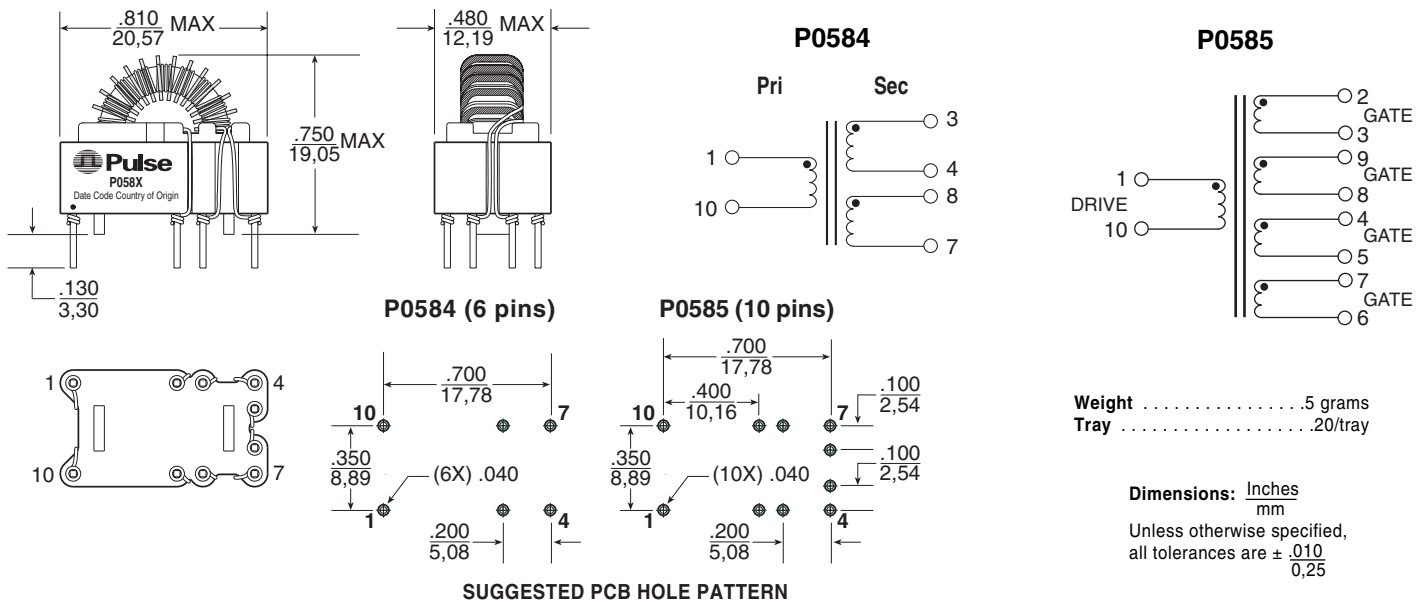
| Part ⁴ Number | Turns Ratio | Reference Data | | Primary Inductance (1-10) (μH MIN) | Leakage Inductance Gate to Drive (μH MAX) | DCR Drive (1-10) (mΩ ±20%) | DCR Gates (mΩ ±20%) | Drive Pri-Sec (Vrms) |
|--------------------------|-------------|-------------------|----------------------|------------------------------------|---|----------------------------|---------------------|----------------------|
| | | ET (V * μsec MAX) | Maximum Flux Density | | | | | |
| P0584 | 1:1:1 | 95.0 | 2100 | 450 | 0.5 | 80 | 72 | 3000 |
| P0585 | 1:1:1:1:1 | 95.0 | 2100 | 450 | 3.0 | 330 | 180 | 3000 |

NOTES:

- These gate drive transformers are meant to operate between 50 and 300kHz with a 12V, 45% bipolar waveform.
- The peak flux density should remain below 2100 Gauss to ensure that the core does not saturate. Use the following procedure to calculate the peak flux density:
 - Calculate the Volt-μsec product (ET):
 $ET = 10^3 * (\text{Drive Voltage}) * (\text{Don}) / (\text{Frequency in kHz})$
 - Calculate the operating flux density (B): Bpk (Gauss) = $40.32 * ET / Ff$ where:
 Ff = 1 for unipolar drive applications and 2 for bipolar drive applications
- The temperature rise of the component is calculated based on the total core loss and copper loss:
 - To calculate total copper loss (W), use the following formula:
 $\text{Copper Loss (W)} = I_{rms}^2 * (\text{DCR_Drive} + (\# \text{ of Gates}) * \text{DCR_Gates})$
 - To calculate total core loss (W), use the following formula:
 $\text{Core Loss (W)} = 7.5E-5 * (\text{Frequency in kHz})^{1.67} * (20.16 * ET/1000)^{2.532}$
 - To calculate temperature rise, use the following formula:
 $\text{Temperature Rise (C)} = 60.18 * (\text{Core Loss (W)} + \text{Copper Loss (W)})^{.833}$
- To order RoHS compliant part, add the suffix "NL" to the part number (i.e. P0584 becomes P0584NL).

Mechanical

Schematics



For More Information:

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