OFFLINE GATE DRIVE TRANSFORMERS

Pulse ®
A TECHNITROL COMPANY

RoHS COMPLIANT

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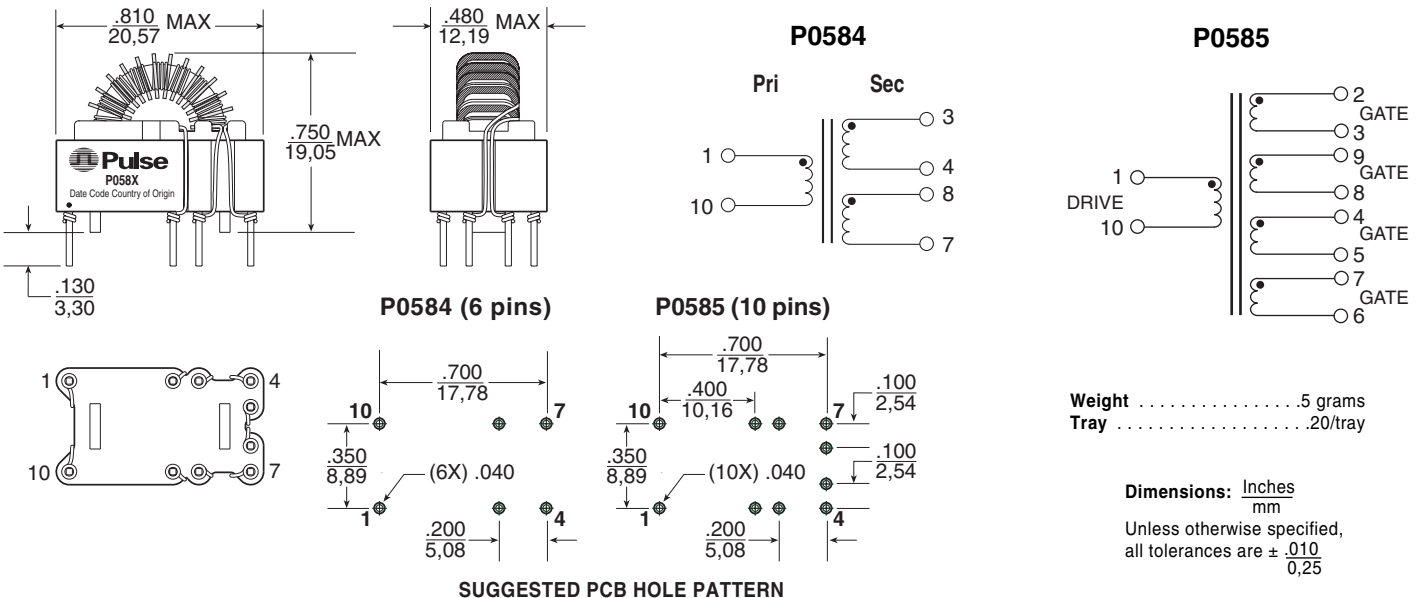
Part [4] Number	Turns Ratio	Reference Data		Primary Inductance (1-10) (µH MIN)	Leakage Inductance Gate to Drive (µH MAX)	DCR Drive (1-10) (mΩ ±20%)	DCR Gates (mΩ ±20%)	Drive Pri-Sec (Vrms)
		ET (V * µsec MAX)	Maximum Flux Density					
P0584	1:1:1	95.0	2100	450	0.5	80	72	3000
P0585	1:1:1:1:1	95.0	2100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

NOTES:

1. These gate drive transformers are meant to operate between 50 and 300kHz with a 12V, 45% bipolar waveform.
2. 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:
   A. Calculate the Volt-µsec product (ET):
   $ET = 10^3 * (Drive\ Voltage) * (Don) / (Frequency\ in\ kHz)$
   B. 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

3. The temperature rise of the component is calculated based on the total core loss and copper loss:
   A. To calculate total copper loss (W), use the following formula:
   $Copper\ Loss\ (W) = Irms^2 * (DCR\_Drive + (\#\ of\ Gates) * DCR\_Gates)$
   B. To calculate total core loss (W), use the following formula:
   $Core\ Loss\ (W) = 7.5E\text{-}5 * (Frequency\ in\ kHz)^{1.67} * (20.16 * ET/1000)^{2.532}$
   C. To calculate temperature rise, use the following formula:
   $Temperature\ Rise\ (C) = 60.18 * (Core\ Loss(W) + Copper\ Loss\ (W))^{.833}$
4. To order RoHS compliant part, add the suffix "**NL**" to the part number (i.e. P0584 becomes P0584**NL**).

Mechanical

Schematics

P0584

P0585

Weight . . . . .5 grams
Tray 20/tray

Dimensions: Inches / mm
Unless otherwise specified, all tolerances are ± .010 / 0,25

P0584 (6 pins)

P0585 (10 pins)

SUGGESTED PCB HOLE PATTERN

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