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High Isolation Gate Drive Transformers

Pulse
a YAGEO company



- *Rugged design for Industrial Applications*
- *UL recognized, TUV approved to IEC 60950*
- *Up to 4250Vrms gate to drive isolation*
- *IEC 61558, IEC 61010 & IEC 60601 reinforced insulation compliant designs*

Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C										
Part[3,4] Number	**Turns Ratio**	**ET** (V * µsec MAX)	**Primary Inductance** (1-10) (µH MIN)	**Leakage Inductance Gate to Drive** (µH MAX)	**DCR Drive** (1-10) (mΩ ±20%)	**DCR Gates** (mΩ ±20%)	**Capacitance**		**Hi-Pot**	
							Drive-Gate (pF typ)	**Gate-Gate** (pF typ)	**Drive-Gate** (Vrms)	**Gate-Gate** (Vrms)
P0584NL	1:1:1	92	450	0.5	80	72	15	32	3000	1500
P0585NL	1:1:1:1:1	92	450	1.3	330	180	12	20	3000	1500*
P0584ANL	1:1:1	114	686	0.8	710	710	18	14	4250	1500
P0585ANL	1:1:1:1:1	114	686	2.2	710	710	20	15	4250	1500*

Notes:

1. The max ET is calculated to limit the core loss and temperature rise at 100KHz based on a bipolar flux swing of 180mT Peak. The applied ET may need to be derated for higher frequencies based on the temperature rise which results from the core and copper losses.
2. 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) = 6.5E-10*(Frequency in kHz)$^{1.67}$*(180 * [ET/ET Max])$^{2.53}$
   Where ET is the applied Volt Second, ET Max is the rated Volt Second for 180mT flux swing
   C. To calculate temperature rise, use the following formula:
   Temperature Rise (C) = 63 * (Core Loss(W) + Copper Loss (W))
3. 500Vrms Hi-Pot between pins 5 & 6.
4. NL versions, which use triple insulated Teflon wire on the drive winding and magnetic wire on the gate windings , are TUV certified. 600Vrms isolation rating is provided between drive and gate windings.
   ANL versions, which use triple insulated wire on both the drive and gate windings, are compliant with IEC 61558, IEC 61010 & IEC 60601. 1000Vrms isolation rating is provided between all winding except those terminate to pins 5 & 6.

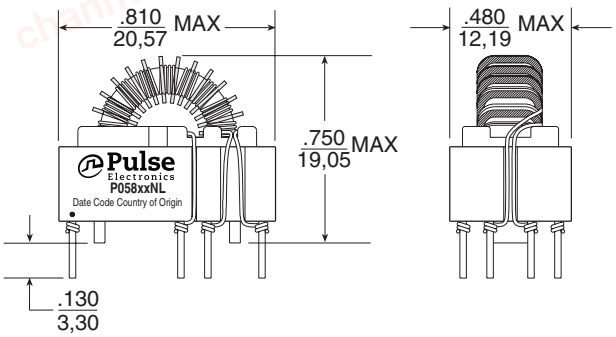
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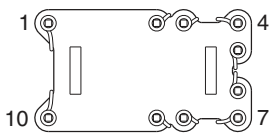
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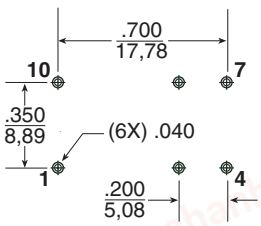
Mechanicals

P058xxNL

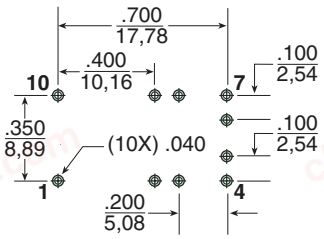




P0584NL/P0584ANL (6 pins)



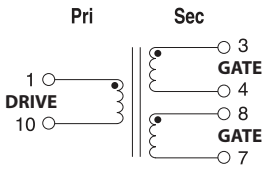
P0585NL/P0585ANL (10 pins)



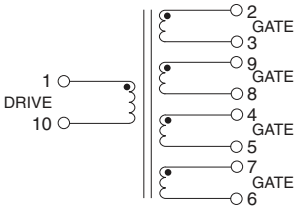
SUGGESTED PCB HOLE PATTERN

Schematics

P0584NL/P0584ANL



P0585NL/P0585ANL



Weight .....5 grams
Tray 80/tray

Dimension: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

Americas - prodinfo_power_americas@yageo.com | **Europe -** prodinfo_power_emea@yageo.com | **Asia -** prodinfo_power_asia@yageo.com

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