

Isolation Power Transformers

Toroid Platform SMD



- Push Pull Converter Transformer
- Functional insulation for isolated power supply driver
- 2.5KVrms isolation (380Vrms continuous)

Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C

Part Number	Inductance (1-3) ($\mu\text{H} \pm 35\%$)	Leakage Inductance (1-3) with (4-6) shorted ($\mu\text{H} \text{ MAX}$)	Capacitance (1, 2, 3) to (4, 5, 6) (pF MAX)	DCR (1-3) ($\Omega \text{ MAX}$)	DCR (4-6) ($\Omega \text{ MAX}$)	MAX (1-3) ¹ (V- $\mu\text{sec} \text{ MAX}$)	Turns Ratio (1:3) (6:4)	Isolated Voltage ² (Vrms)
PH9085.011NL	1020	0.8	30	0.60	0.65	22	1CT : 1CT	2500
PH9085.012NL	1020	0.6	40	0.85	1.60	22	1CT : 2CT	
PH9085.021NL	1160	1.6	20	0.60	0.35	23.6	2CT : 1CT	
PH9085.034NL	1020	0.6	40	0.60	0.75	22	3CT : 4CT	
PH9085.035NL	1020	0.6	40	0.80	1.20	22	3CT : 5CT	
PH9085.038NL	1020	0.7	40	0.85	2.00	22	3CT : 8CT	
PH9085.043NL	1160	0.8	30	0.60	0.50	23.6	4CT : 3CT	
PH9085.083NL	1160	2.0	15	0.60	0.30	23.6	8CT : 3CT	
PH9085.089NL	1160	0.6	40	0.60	0.70	23.6	8CT : 9CT	

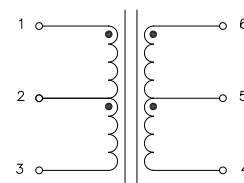
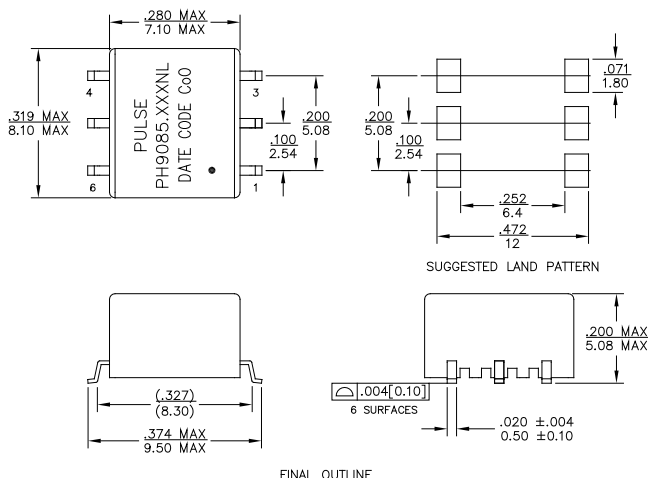
Notes:

- The maximum volt-usec rating limits the peak flux density to 3600 gauss when used in bi-polar drive application with 200KHz. For unipolar drive applications or a bi-polar drive with 350kHz, a maximum volt-usec could be 60% of the listed value. For Push-Pull topology, where the voltage is applied across half the primary winding turns, the maximum volts-usec needs to be derated by 50%.
- The AEC-Q200 temperature and humidity operational life testing was completed using a dielectric strength test of 2750Vdc.
- Continuous isolation voltage confirmed by 125°C/1000hrs accelerated aging with the bias voltage applied between primary and secondary windings.

Mechanical

Schematic

PH9085.XXXNL



SCHEMATIC

Weight0.365grams
Tape & Reel700/reel
Tray55/tray

Dimensions: Inches
mm

Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

USA 858 674 8100

Germany 49 2354 777 100

Singapore 65 6287 8998

Shanghai 86 21 62787060

China 86 755 33966678

Taiwan 886 3 4356768

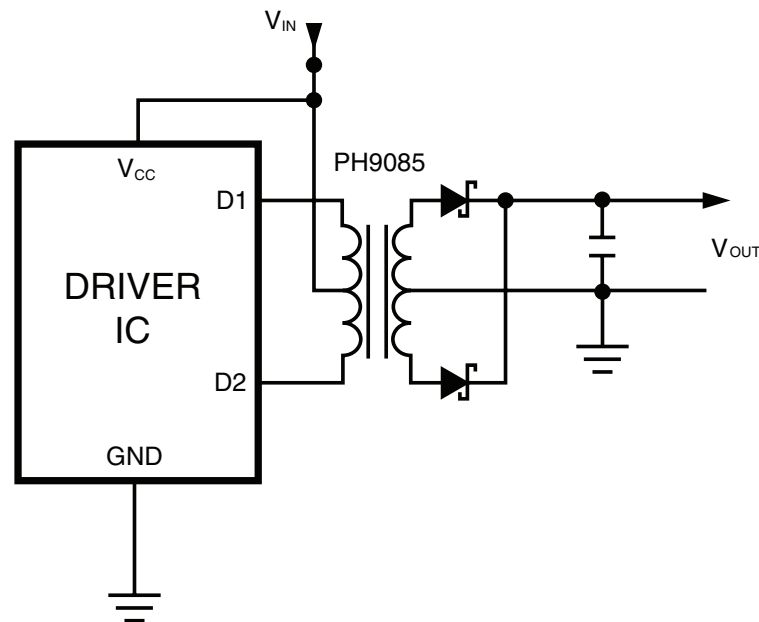
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Application

PH9085.XXXNL is a series of high isolation power supply transformer drivers. Intended to operate in a fixed duty cycle Push Pull topology, it is a part of a low cost solution for delivering lower power (up to 2W) from a low voltage source. A typical implementation would be an isolated RS-485/RS-232 power supply driver circuit, the design is compatible with the MAXIM™ MAX253 IC.

A schematic diagram for the Push Pull converter topology is given below.



For a fixed 50% duty cycle mode of operation, the output voltage is simply determined by the input voltage and turns ratio. So, with the available turns ratios, a variety of output voltages can be selected.

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For More Information

Pulse Worldwide Headquarters

15255 Innovation Dr. Ste 100
San Diego, CA 92128 U.S.A.

Tel: 858 674 8100
Fax: 858 674 8262

Pulse Europe

Pulse Electronics GmbH
Am Rottland 12
58540 Meinerzhagen
Germany

Tel: 49 2354 777 100
Fax: 49 2354 777 168

Pulse China Headquarters

B402, Shenzhen Academy of
Aerospace Technology Bldg.
10th Kejinan Road
High-Tech Zone
Nanshan District
Shenzhen, PR China 518057

Tel: 86 755 33966678
Fax: 86 755 33966700

Pulse North China

Room 2704/2705
Super Ocean Finance Ctr.
2067 Yan An Road West
Shanghai 200336
China

Tel: 86 21 62787060
Fax: 86 2162786973

Pulse South Asia

135 Joo Seng Road
#03-02
PM Industrial Bldg.
Singapore 368363

Tel: 65 6287 8998
Fax: 65 6287 8998

Pulse North Asia

3F, No. 198
Zhongyuan Road
Zhongli City
Taoyuan County 320
Taiwan R. O. C.

Tel: 886 3 4356768
Fax: 886 3 4356823 (Pulse)
Fax: 886 3 4356820 (FRE)

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