

# 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) <sup>1</sup> (V- $\mu\text{sec} \text{ MAX}$ )	Turns Ratio (1:3) (6:4)	Isolated Voltage <sup>2</sup> (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	

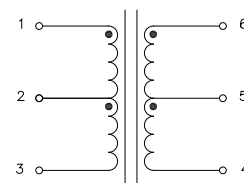
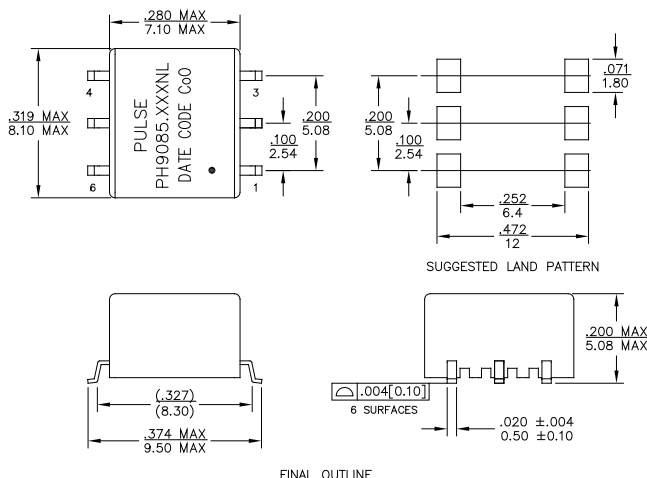
### Notes:

- The maximum volt- $\mu\text{sec}$  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- $\mu\text{sec}$  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-use 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

Weight .....0.365grams  
Tape & Reel .....700/reel  
Tray .....55/tray

Dimensions: Inches  
mm

Unless otherwise specified,  
all tolerances are  $\pm .010$   
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

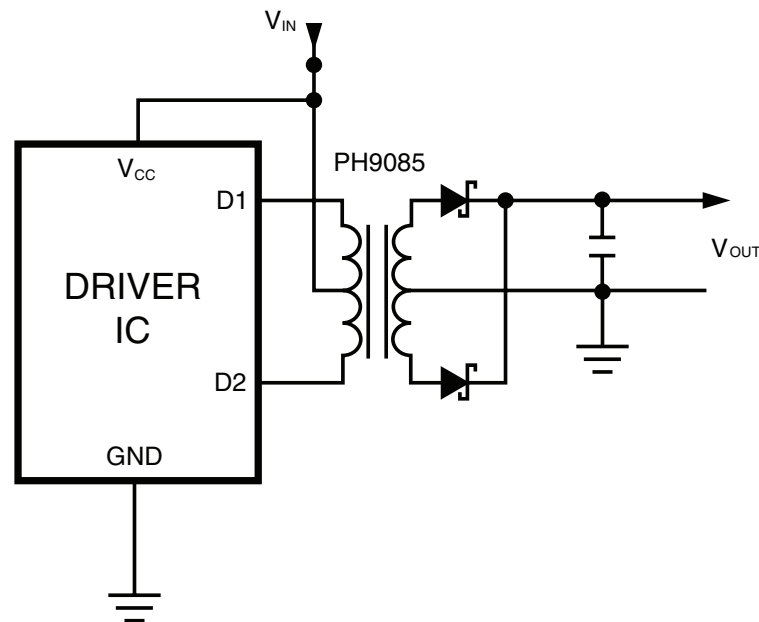
# Isolation Power Transformers

## Toroid Platform SMD

### 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.

MAXIM is a registered trademark of Maxim Integrated Products.

### 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)

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2016. Pulse Electronics, Inc. All rights reserved.