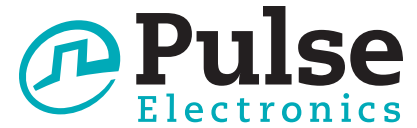


# Switch Mode Transformers

EP7 Platform SMD



- Push Pull Converter Transformer
- Reinforced insulation for isolated power supply driver
- Compatible with MAXIM™ MAX253 to power RS-485/RS232 transceiver
- 8mm creepage, 4000V Hi-pot
- UL and TUV certification
- UL class F insulation System compliant

## Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C<sup>4</sup>

Part <sup>2,3</sup> Number	Inductance (1-3) ( $\mu\text{H} \pm 45\%$ )	DCR (1-3) ( $\Omega$ MAX)	MAX (1-3) <sup>1</sup> (V- $\mu\text{sec}$ )	Turns Ratio	Isolated Voltage (Vrms)
PH9185.011NL	750.0	0.50	66.0	1:1	4000.0
PH9185.012NL	450.0	0.40	52.0	1:2	
PH9185.013NL	200.0	0.35	36.0	1:3	
PH9185.021NL	880.0	0.56	74.0	2:1	
PH9185.034NL	750.0	0.50	66.0	3:4	
PH9185.038NL	310.0	0.35	44.0	3:8	
PH9185.043NL	1260.0	0.70	89.0	4:3	
PH9185.083NL	560.0	0.45	59.0	8:3	

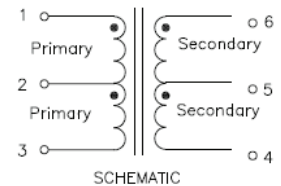
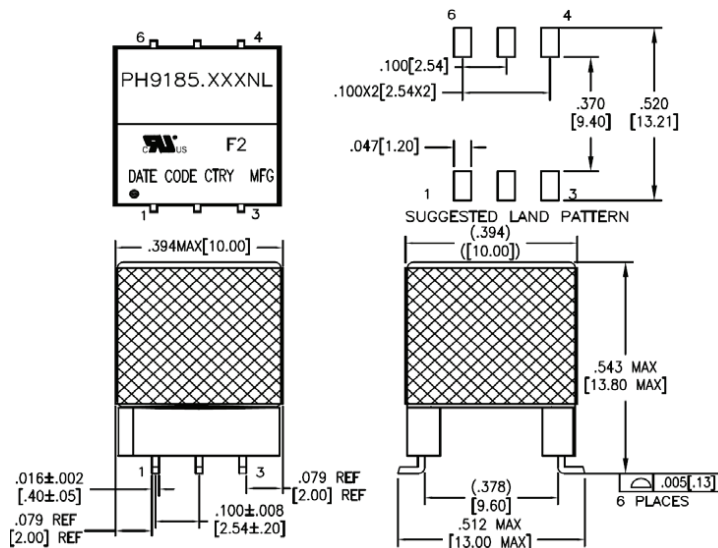
### Notes:

- 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.
- Optional Tape & Reel packing can be ordered by adding a "T" suffix to the part number (i.e. PH9185.012NL becomes PH9185.012NLT). Pulse complies to industry standard tape and reel specification EIA481.
- The "NL" suffix indicates an RoHS-compliant part number.
- The temperature of the component (ambient plus the temperature rise) must be within the stated operating temperature range.

### Mechanical

### Schematic

#### PH9185.XXXNL



Weight .....2.6grams  
Tape & Reel .....150/reel  
Tray .....80/tray

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0,25}$

USA 858 674 8100

Germany 49 7032 7806 0

Singapore 65 6287 8998

Shanghai 86 21 62787060

China 86 755 33966678

Taiwan 886 3 4356768

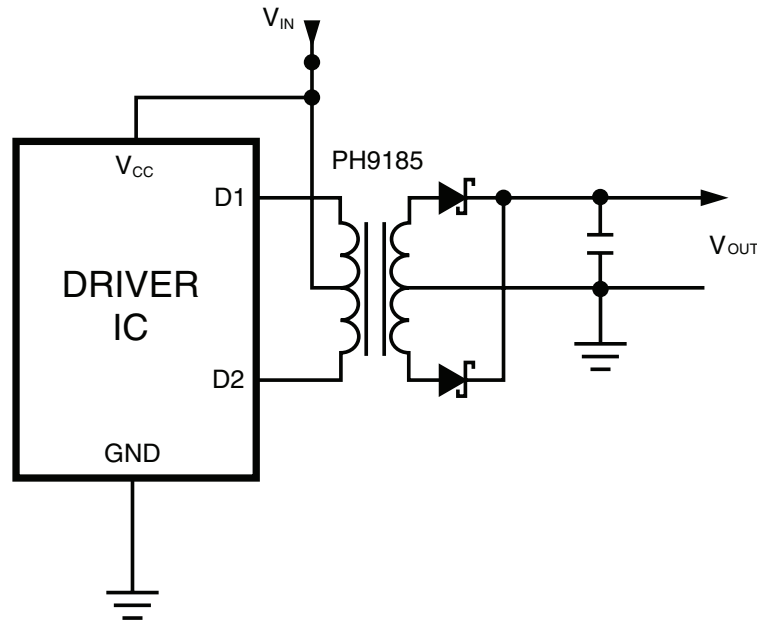
# Switching Mode Transformers

EP7 Platform SMD

## Application

PH9185NL 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 3W) 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.

This transformer design has been certified by UL to comply with U L60050-1 2<sup>ND</sup> edition, and CAN/CSA C22.2 NO. 60950-1-07 2<sup>ND</sup> edition; and by TUV to comply with EN61558-1 and EN61558-2-16 with reinforced insulation for a working voltage up to 400V 8mm creepage and 4000Vrms isolation voltage is guaranteed to meet this requirement. The design also complies with the Pulse's class F insulation system.

MAXIM is a registered trademark of Maxim Integrated Products.

## For More Information

### Pulse Worldwide Headquarters

12220 World Trade Drive  
San Diego, CA  
92128  
U.S.A.

Tel: 858 674 8100  
Fax: 858 674 8262

### Pulse Europe

Einsteinstrasse 1  
D-71083 Herrenberg  
Germany

Tel: 49 7032 78060  
Fax: 49 7032 7806 135

### Pulse China Headquarters

B402, Shenzhen Academy of  
Aerospace Technology Bldg.  
10th Kejianan 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, 2011. Pulse Electronics, Inc. All rights reserved.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Pulse:

[PH9185.011NL](#) [PH9185.011NLT](#) [PH9185.012NL](#) [PH9185.012NLT](#) [PH9185.013NL](#) [PH9185.013NLT](#)  
[PH9185.021NL](#) [PH9185.021NLT](#) [PH9185.034NL](#) [PH9185.034NLT](#) [PH9185.038NL](#) [PH9185.038NLT](#) [PH9185.043NL](#)  
[PH9185.043NLT](#) [PH9185.083NL](#) [PH9185.083NLT](#)