High Isolation Power Transformers

EP7 Platform SMD

- *Push Pull Converter Transformer*
- *Basic insulation for isolated power supply driver*
- *4.0mm Creepage*
- *4KVrms Isolation*

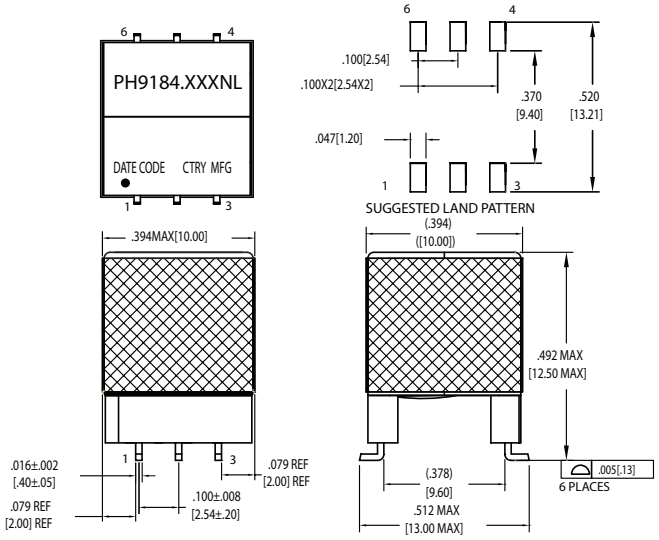
Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C								
Part Number	**Inductance (1-3)** (mH ±45%)	**Leakage Inductance** (uH MAX)	**Capacitance** (pF MAX)	**DCR (1-3)** (Ω MAX)	**DCR (4-6)** (Ω MAX)	**MAX (1-3)[1]** (V-µsec Max)	**Turns Ratio** (1:3) (6:4)	**Isolated Voltage** (Vrms)
PH9184.011NL	12.2	12.5	28.5	1.9	2.4	266	1CT : 1CT	4000
PH9184.021NL	15.0	15.0	26.5	2.1	1.4	296	2CT : 1CT	
PH9184.034NL	6.8	5.0	31.5	1.4	2.2	200	3CT : 4CT	

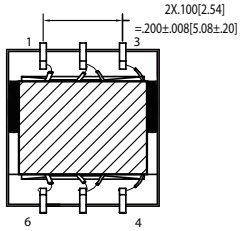
Notes:

1. 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-use needs to be derated by 50%.
2. Optional Tape & Reel packing can be ordered by adding a "**T**" suffix to the part number (i.e. PH9184.011NL becomes PH9184.011NL**T**). Pulse complies to industry standard tape and reel specification EIA481.
3. The "NL" suffix indicates an RoHS-compliant part number.
4. The temperature of the component (ambient plus the temperature rise) must be within the stated operating temperature range.

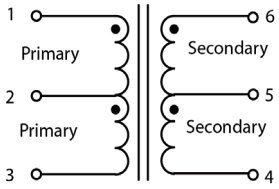
Mechanical

PH9184.XXXXNL





Schematic



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

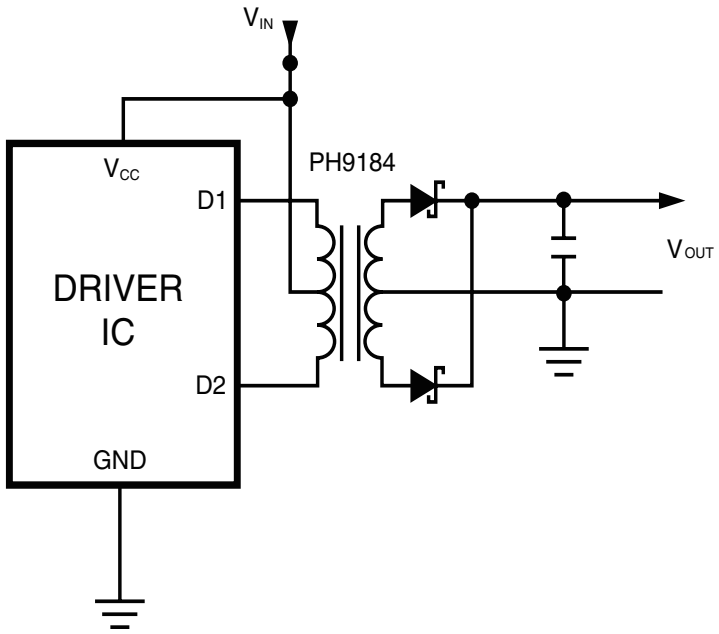
Dimensions: Inches / mm

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

Application

PH9184NL 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 conforms to UL60950-1 2 edition with basic insulation for a working voltage up to 300Vac. 3.2mm creepage and 3000Vrms isolation voltage is guaranteed to meet this requirement. The actual isolation and creepage capability of the design exceeds these UL ratings.

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For More Information

Pulse Worldwide Headquarters
15255 Innovation Drive 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
Pulse Electronics (ShenZhen) CO., LTD
D708, Shenzhen Academy of
Aerospace Technology,
The 10th Keji South Road,
Nanshan District, Shenzhen,
P.R. 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 6280 0080

Pulse North Asia
1F., No.111 Xiyuan Rd
Zhongli City
Taoyuan City 32057
Taiwan (R.O.C)

Tel: 886 3 4356768
Fax: 886 3 4356820