

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	

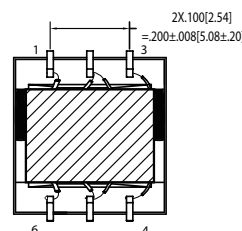
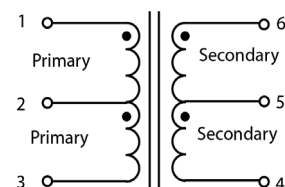
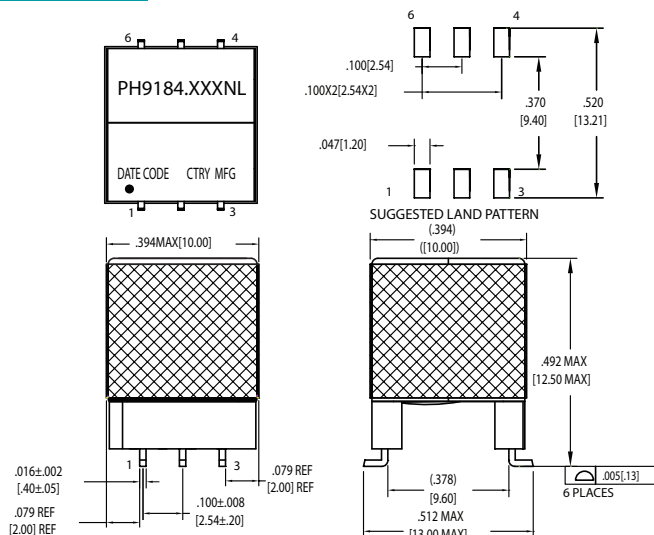
Notes:

- 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%.
- 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.
- 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

PH9184.XXXXNL



Weight2.6grams
 Tape & Reel150/reel
 Tray80/tray

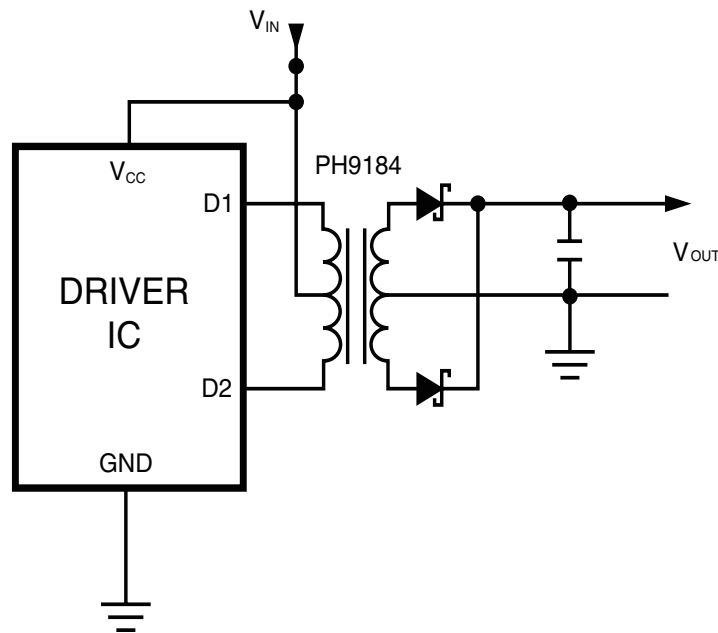
Dimensions: $\frac{\text{Inches}}{\text{mm}}$

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

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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