

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°C⁴

Part Number ^{2,3}	Inductance (1-3) ($\mu\text{H} \pm 45\%$)	DCR (1-3) (Ω MAX)	MAX (1-3) ¹ (V- μsec)	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	

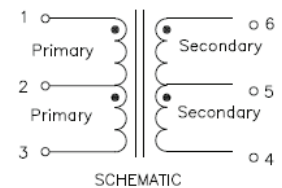
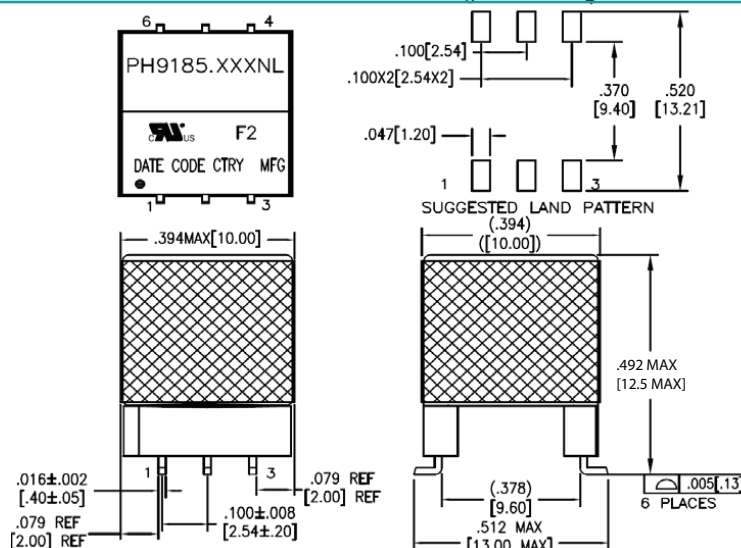
Notes:

- 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



Weight2.6grams
Tape & Reel150/reel
Tray80/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

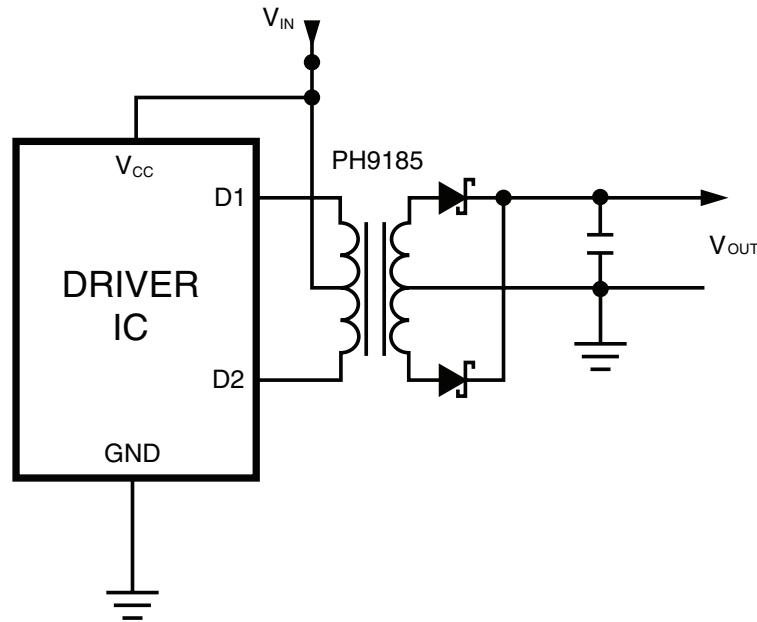
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Application

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 UL60950-1 2nd edition, and CAN/CSA C22.2 NO. 60950-1-07 2nd 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.

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