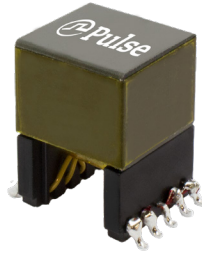


# High Frequency Wire Wound Transformers

EP13 Reinforced Insulation - PA5000.XXXNL, PA5111.XXXNL, PA5112.XXXNL



- Ⓢ Industry standard footprint with reinforced insulation
- Ⓢ **Power Range:** Up to 24W
- Ⓢ **Height:** 16.5mm Max
- Ⓢ **Footprint:** 17.7mm x 13.5mm Max
- Ⓢ **Topology:** Forward and Flyback
- Ⓢ >8.0mm creepage, 3.0kVrms Isolation

Pulse PN	Electrical Specifications @25°C – Operating Temperature -40°C to 130°C †				Schematic
PA5000.001NL	Pri. Inductance	(1-3)	100	uH +/- 15%	<p>Forward Transformer</p>
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.0	uH Max	
	DCR	(1-3)	130	mΩ Max	
		(10-9)	15.0		
		(7-6)	15.0		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
K1 Factor	32.9				
PA5000.002NL	Pri. Inductance	(1-3)	100	uH +/- 15%	<p>Forward Transformer</p>
	Lk. Inductance	(10-9)	1.0	uH Max	
	DCR	(1-3)	130	mΩ Max	
		(10-9)	20		
		(7-6)	20		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
K1 Factor	32.9				
PA5000.003NL	Pri. Inductance	(1-3)	100	uH +/- 15%	<p>Forward Transformer</p>
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.0	uH Max	
	DCR	(1-3)	130	mΩ Max	
		(10-9)	50		
		(7-6)	50		
		(4-5)	500		
	Hi-Pot	Pri-Sec	5000	Vac	
K1 Factor	32.9				
PA5111.001NL	Pri. Inductance	(1-3)	80	uH +/- 10%	<p>Flyback Transformer</p>
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.5	uH Max	
	DCR	(1-3)	180	mΩ Max	
		(10-9)	15.0		
		(7-6)	15.0		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
K1 Factor	1913				

# High Frequency Wire Wound Transformers

EP13 Reinforced Insulation - PA5000.XXXNL, PA5111.XXXNL, PA5112.XXXNL



Pulse PN	Electrical Specifications @25°C – Operating Temperature -40°C to 130°C <sup>1</sup>				Schematic
PA5111.002NL	Pri. Inductance	(1-3)	80	uH +/- 10%	<p>Flyback Transformer</p>
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.5	uH Max	
	DCR	(1-3)	180	mΩ Max	
		(10-9)	20		
		(7-6)	20		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
K1 Factor	1913				
PA5111.003NL	Pri. Inductance	(1-3)	80	uH +/- 10%	<p>Flyback Transformer</p>
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.5	uH Max	
	DCR	(1-3)	180	mΩ Max	
		(10-9)	50		
		(7-6)	50		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
K1 Factor	1913				
PA5112.001NL	Pri. Inductance	(1-3)	173	uH +/- 15%	<p>Flyback Transformer</p>
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	3.5	uH Max	
	DCR	(1-3)	550	mΩ Max	
		(10-9)	15		
		(7-6)	15		
		(4-5)	240		
	Hi-Pot	Pri-Sec	3000	Vac	
K1 Factor	2031				
PA5112.002NL	Pri. Inductance	(1-3)	160	uH +/- 15%	<p>Flyback Transformer</p>
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	3.5	uH Max	
	DCR	(1-3)	550	mΩ Max	
		(10-9)	20		
		(7-6)	20		
		(4-5)	240		
	Hi-Pot	Pri-Sec	3000	Vac	
K1 Factor	2031				
PA5112.003NL	Pri. Inductance	(1-3)	155	uH +/- 15%	<p>Flyback Transformer</p>
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	3.5	uH Max	
	DCR	(1-3)	550	mΩ Max	
		(10-9)	50		
		(7-6)	50		
		(4-5)	240		
	Hi-Pot	Pri-Sec	3000	Vac	
K1 Factor	2031				

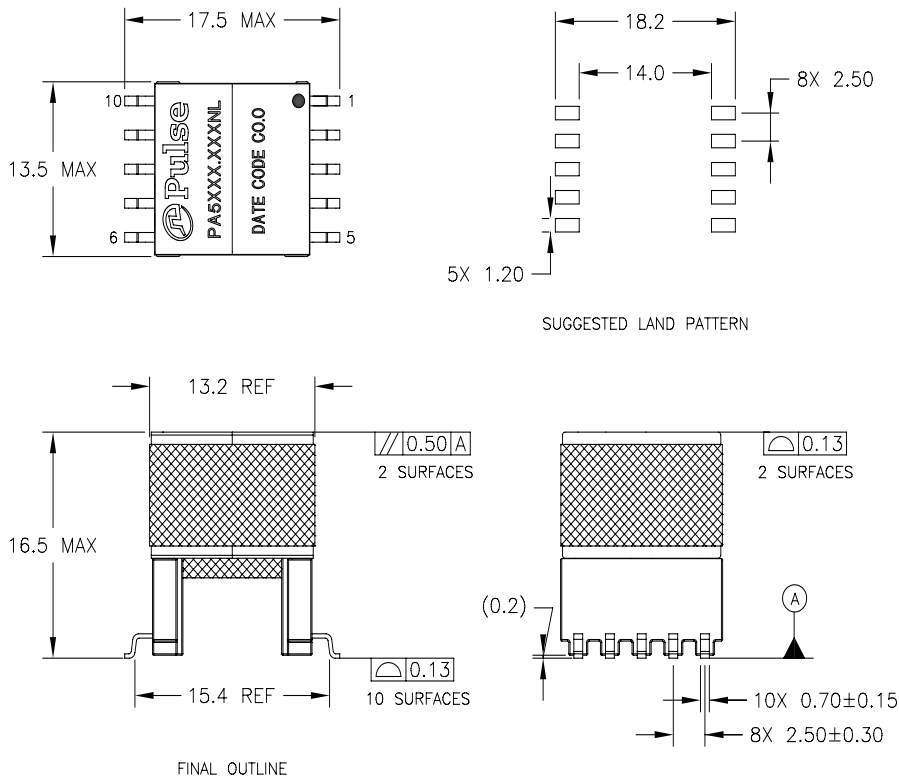
# High Frequency Wire Wound Transformers

EP13 Reinforced Insulation - PA5000.XXXNL, PA5111.XXXNL, PA5112.XXXNL

- Notes:**
1. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
  2. For flyback topology applications, it is necessary to ensure that the transformer will not saturate in the application. The peak flux density (Bpk) should remain below 3250Gauss. To calculate the peak flux density use the following formula:  
 $B_{pk} \text{ (Gauss)} = K1\_Factor * I_{pk} \text{ (A)}$
  3. In high volt- $\mu$ sec applications, it is important to calculate the core loss of the transformer. Approximate transformer core loss can be calculated as:  
 $CoreLoss \text{ (W)} = 3.84E-14 * (Freq\_kHz)^{1.63} * (\Delta B\_Gauss)^{2.63}$   
 where  $\Delta B$  can be calculated as:  
 For Flyback Topology:  $\Delta B = K1\_Factor * \Delta I \text{ (A)}$   
 For Forward Topology:  $\Delta B = K1\_Factor * Volt\text{-}\mu\text{sec}$
  4. The standard pin-numbering for this package is indicated in the below mechanical drawing showing pin 1 on the lower right corner and the numbers proceeding clockwise to pin 10 on the upper right corner.
  5. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA5000.001NL becomes PA5000.001NLT). Pulse complies with industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=32mm), pitch (Po=24mm) and depth (Ko=13.2mm).

## Mechanical

PA5000.XXNL / PA5111.XXNL / PA5112.XXXNL



### For More Information:

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