

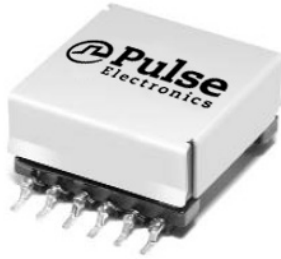


**THE DATASHEET OF
PA1558NLT**



High Frequency Wire Wound Transformers

EFD20 Platforms - SMT



- Power Range:** up to 95W
- Height:** 11.4mm Max
- Footprint:** 29.2mm x 21.8mm Max
- Topology:** Forward and Flyback

Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C				
PA0273NL	Pri. Inductance	(1, 2-3, 4)	307µH ±25%	<p>FORWARD TRANSFORMER</p>
	Lk. Inductance	(1, 2-3, 4) with (5, 6, 9, 10) shorted	0.35µH MAX	
	DCR	(1, 2-3, 4)	65mΩ MAX	
		(7, 8, 9-10, 11, 12)	27mΩ MAX	
		(5-6)	240mΩ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
K1 Factor	20.2			
PA0751NL	Pri. Inductance	(1, 2-3, 4)	110µH ±10%	<p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	2µH MAX	
	DCR	(4-5)	85mΩ MAX	
		(12, 11, 10-9, 8, 7)	12mΩ MAX	
		(1-3)	300mΩ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
K1 Factor	1364.8			
PA0769NL	Pri. Inductance	(1, 2-5, 4)	89.2µH ±18%	<p>FORWARD TRANSFORMER</p>
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	1.5µH MAX	
	DCR	(1, 2-3, 4)	50mΩ MAX	
		(12-11)	3.8mΩ MAX	
		(10-9)=(8-7)	35mΩ MAX	
		(5-6)	110mΩ MAX	
	Hi-Pot	Pri-Sec	1500Vdc	
K1 Factor	21.5			

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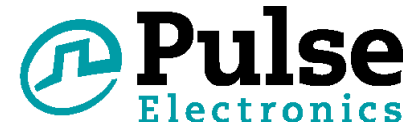


Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C

Part Number	Parameter	Value	Notes
PA1066NL	Pri. Inductance	(3-4)	137µH ±32%
	Lk. Inductance	(3-4) with (11, 10, 9, 8) shorted	1.0µH MAX
	DCR	(3-4)	35mΩ MAX
		(1-2)	199mΩ MAX
		(5-6)	100mΩ MAX
		(11-10)=(9-8)	17mΩ MAX
	Hi-Pot	Pri-Sec	500Vrms
K1 Factor	29.3		
<p>FORWARD TRANSFORMER</p>			
PA1366NL	Pri. Inductance	(2, 3-4, 5)	10µH ±10%
	Lk. Inductance	(2, 3-4, 5) with (11, 8) shorted	0.3µH MAX
	DCR	(2, 3-4, 5)	15.75mΩ MAX
		(11-8)	560mΩ MAX
	Hi-Pot	Pri-Sec	1500Vrms
K1 Factor	322.6		
<p>FLYBACK TRANSFORMER</p>			
PA1477NL	Pri. Inductance	(1, 2-3, 4)	38.3µH ±7%
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	1.0µH MAX
	DCR	(1-3)	72mΩ MAX
		(2-4)	85mΩ MAX
		(12, 11, 10-9, 8, 7)	2.5mΩ MAX
		(5-6)	230mΩ MAX
	Hi-Pot	Pri-Sec	1800Vrms
K1 Factor	772.2		
<p>FLYBACK TRANSFORMER</p>			
PA1558NL	Pri. Inductance	(1, 2-3, 4)	11.5µH ±10%
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	0.5µH MAX
	DCR	(1, 2-3, 4)	28mΩ MAX
		(8-7)	12mΩ MAX
		(12-11)	5mΩ MAX
		(10-9)	62mΩ MAX
		(5-6)	190mΩ MAX
	Hi-Pot	Pri-Sec	1500Vrms
K1 Factor	463.7		
<p>FLYBACK TRANSFORMER</p>			

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Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C

Part Number	Parameter	Value	Notes
PA1692NL	Pri. Inductance	(3, 4-5, 6)	73μH ±30%
	Lk. Inductance	(3, 4-5, 6) with (12, 11, 10, 9, 8, 7) shorted	1.0μH MAX
	DCR	(3, 4-5, 6)	10.2mΩ MAX
		(12, 11, 10-9, 8, 7)	5mΩ MAX
		(1-2)	115mΩ MAX
	Hi-Pot	Pri-Sec	1500Vdc
	KI Factor	40.3	
			<p>FLYBACK TRANSFORMER</p>
PA1735NL	Pri. Inductance	(1, 2-3, 4)	28.5μH ±5%
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	1μH MAX
	DCR	(1, 2-3, 4)	39.0mΩ MAX
		(12, 11, 10-9, 8, 7)	3.5mΩ MAX
		(5-6)	230mΩ MAX
	Hi-Pot	Pri-Sec	1800Vrms
	KI Factor	574.6	
			<p>FLYBACK TRANSFORMER</p>
PA1736NL	Pri. Inductance	(1, 2-3, 4)	20.5μH ±5%
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	1μH MAX
	DCR	(1, 2-3, 4)	39.0mΩ MAX
		(12, 11, 10-9, 8, 7)	8.5mΩ MAX
		(5-6)	230mΩ MAX
	Hi-Pot	Pri-Sec	1500Vrms
	KI Factor	413.3	
			<p>FLYBACK TRANSFORMER</p>
PA1835NL	Pri. Inductance	(1, 2-3, 4)	4.5μH ±5%
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	0.25μH MAX
	DCR	(1, 2-3, 4)	9.5mΩ MAX
		(12, 11, 10-9, 8, 7)	3mΩ MAX
		(5-6)	130mΩ MAX
	Hi-Pot	Pri-Sec	1800Vrms
	KI Factor	241.9	
			<p>FLYBACK TRANSFORMER</p>
PA1836NL	Pri. Inductance	(1, 2-3, 4)	4.5μH ±5%
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	0.2μH MAX
	DCR	(1, 2, 3, 4)	9.5mΩ MAX
		(12, 11, 10-9, 8, 7)	5mΩ MAX
		(5-6)	130mΩ MAX
	Hi-Pot	Pri-Sec	1800Vrms
	KI Factor	241.9	
			<p>FLYBACK TRANSFORMER</p>

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PA1837NL	Pri. Inductance	(1, 2-3, 4)	4.5μH ±5%
	Lk. Inductance	(1, 2-3, 4) with (12, 11, 10, 9, 8, 7) shorted	0.2μH MAX
	DCR	(1, 2, 3, 4)	9.5mΩ MAX
		(12, 11, 10-9, 8, 7)	23mΩ MAX
		(5-6)	130mΩ MAX
	Hi-Pot	Pri-Sec	1800Vdc
	KI Factor	241.9	
<p>FLYBACK TRANSFORMER</p>			
PA2047NL	Pri. Inductance	(1-3)	7.2μH ±5%
	Lk. Inductance	(1-3) with (11, 10-9, 7) shorted	0.3μH MAX
	DCR	(1-3)	52mΩ MAX
		(11, 10-9, 7)	12mΩ MAX
		(5-6)	240mΩ MAX
	Hi-Pot	Pri-Sec	1500Vrms
KI Factor	290.3		
<p>FLYBACK TRANSFORMER</p>			
PA2053NL	Pri. Inductance	(1, 2-5, 6)	292.0μH ±32%
	Lk. Inductance	(1, 2-5, 6) with (12, 11, 10, 9, 8, 7) shorted	1.3μH MAX
	DCR	(1, 2-5, 6)	78.0mΩ MAX
		(7, 8-9, 10)	12mΩ MAX
		(11-12)	43mΩ MAX
	Hi-Pot	Pri-Sec	1500Vrms
KI Factor	20.2		
<p>FLYBACK TRANSFORMER</p>			
PA2291NL	Pri. Inductance	(1-4)	57.6μH ±12%
	Lk. Inductance	(1-4) with (all windings) shorted	0.5μH MAX
	DCR	(1-4)	65mΩ MAX
		(3-2)	155mΩ MAX
		(6-5)	145mΩ MAX
		(7, 8-9, 10)	4mΩ MAX
		(11-12)	55mΩ MAX
	Hi-Pot	Pri-Sec	1500Vdc
KI Factor	26.9		
<p>FLYBACK TRANSFORMER</p>			
PA2398NL	Pri. Inductance	(1,2-3,4)	100μH ±12%
	Lk. Inductance	(1, 2-3, 4) with (5, 6, 9,10) shorted	0.45μH MAX
	DCR	(1, 2-3, 4)	72mΩ MAX
		(7, 8, 9-10, 11, 12)	15mΩ MAX
		(5-6)	680mΩ MAX
	Hi-Pot	Pri-Sec	1500Vrms
KI Factor	16.1		
<p>FLYBACK TRANSFORMER</p>			

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Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C

Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C					
PB2041NL	Pri. Inductance	(1-6) with (3-4) shorted	491μH ±35%	<p>PRIMARY</p> <p>FORWARD TRANSFORMER</p>	
	Lk. Inductance	(1-6) with (all windings) shorted	1μH MAX		
	DCR		(1-3)		36.1mΩ MAX
			(4-6)		45.6mΩ MAX
			(8-7)		86.4mΩ MAX
			(11-9)		86.4mΩ MAX
			(12-10)		47.8mΩ MAX
	Hi-Pot	Pri-Sec	1500Vrms		
K1 Factor	16.1				
PB2089NL	Pri. Inductance	(5, 4-3, 2)	112.0μH MAX	<p>PRIMARY</p> <p>RESET</p> <p>FORWARD TRANSFORMER</p>	
	Lk. Inductance	(5, 4-3, 2) with (all windings) shorted	1μH MAX		
	DCR		(5-3)		55mΩ MAX
			(4-2)		67.7mΩ MAX
			(10, 11-8, 9)		5.5mΩ MAX
			(12-7)		123mΩ MAX
			(6-1)		923mΩ MAX
	Hi-Pot	Pri-Sec	1500Vdc		
K1 Factor	24.8				

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Notes:

1. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
2. The above transformers and inductors have been tested and approved by Pulse's power IC partners and are sited in the appropriate datasheet or evaluation board documentation at these companies. To determine which IC and IC partners are matched with the above Pulse part numbers please consult the IC Cross Reference on the Pulse website.
3. 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 2700Gauss. To calculate the peak density, use the following formula:

$$B_{pk} \text{ (Gauss)} = K1_Factor * I_{pk} \text{ (A)}$$

4. In high volt-sec applications, it is important to calculate the core loss of the transformer.

Approximate transformer core loss can be calculated as:

$$\text{CoreLoss (W)} = 1.32E-13 * (\text{Freq_kHz})^{1.63} * (\Delta B_Gauss)^{2.63}$$

where ΔB can be calculated as:

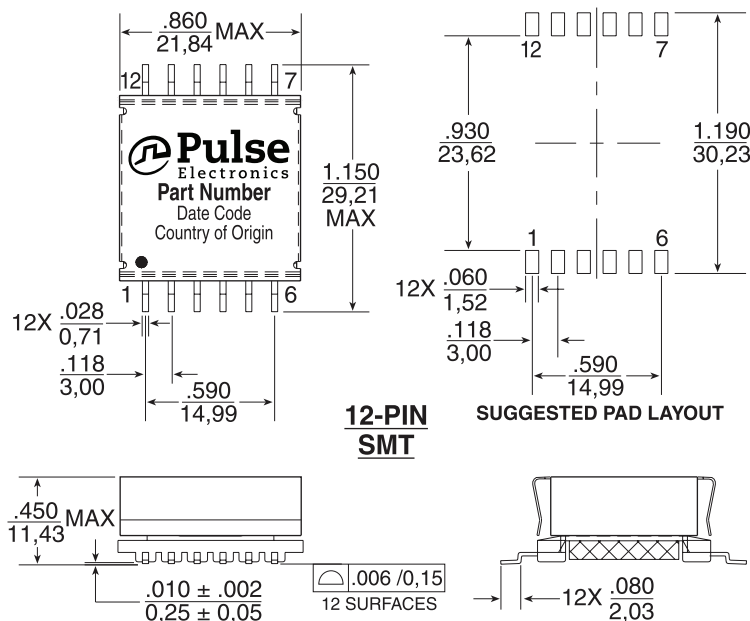
For Flyback Topology: $\Delta B = K1_Factor * (A)$

For Forward Topology: $\Delta B = K1_Factor * \text{Volt-}\mu\text{sec}$

5. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA0273NL becomes PA0273NL**T**). Pulse complies with industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=44mm), pitch (Po=32mm) an depth (Ko=11.78mm).
6. The "NL" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "NL" suffix, but an RoHS compliant version is required, please contact Pulse for availability.

Mechanical

PAXXXXNL / PBXXXXNL



For More Information

Pulse Worldwide Headquarters

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

Pulse Europe

Pulse Electronics GmbH
Am Rottland 12
58540 Meinerzhagen
Germany

Pulse China Headquarters

B402, Shenzhen Academy of
Aerospace Technology Bldg.
10th Kejinan Road
High-Tech Zone
Nanshan District
Shenzhen, PR China 518057

Pulse North China

Room 2704/2705
Super Ocean Finance
Ctr.
2067 Yan An Road
West
Shanghai 200336
China

Pulse South Asia

135 Joo Seng Road
#03-02
PM Industrial Bldg.
Singapore 368363

Pulse North Asia

3F, No. 198
Zhongyuan Road
Zhongli City
Taoyuan County 320
Taiwan R. O. C.

Tel: 858 674 8100
Fax: 858 674 8262

Tel: 49 2354 777 100
Fax: 49 2354 777 168

Tel: 86 755 33966678
Fax: 86 755 33966700

Tel: 86 21 62787060
Fax: 86 2162786973

Tel: 65 6287 8998
Fax: 65 6287 8998

Tel: 886 3 4356768
Fax: 886 3 4356823 (Pulse)
Fax: 886 3 4356820 (FRE)

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