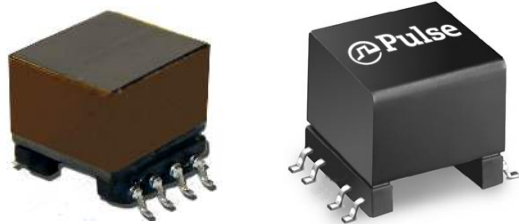


Wire Wound Transformers

EP 10 and EP 13 Platforms - SMT



- Ⓢ **Designed to support Active Cell Balancer Circuits for high voltage battery stacks in conjunction with Analog Devices IC's LT8584 and LTC3300 .**
- Ⓢ **EP10 Platform Size: 15.24mm x 13.1mm x 11.45mm Max (PA5178NL, PA5179NL, PA5180NL)**
- Ⓢ **EP13 Platform Size: 17.7mm x 14.0mm x 12.7mm Max (PA5181NL)**
- Ⓢ **1500Vrms Isolation between primary and secondary windings**

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C

EP10 Platforms

PA5178NL	Pri. Inductance	(1,2-3,4)	4.0μH ± 10% ,0Adc 3.6uH Min, 7Adc	
	Lk. Inductance	(1,2-3,4) with (8-5) shorted	116μH MAX	
	DCR	(1,2-3,4)	12mΩ MAX	
		(8-5)	500mΩ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
	KI Factor	393.3		
				EP10 Platforms
PA5179NL	Pri. Inductance	(1,2-3,4)	4.0μH ±10%,0Adc 3.6uH Min, 7Adc	
	Lk. Inductance	(1,2-3,4) with (8-5) shorted	190nH MAX	
	DCR	(1,2-3,4)	10mΩ MAX	
		(8-5)	53mΩ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
	KI Factor	393.3		
				EP10 Platforms
PA5180NL	Pri. Inductance	(1,2-3,4)	4.0μH ± 10% ,0Adc 3.2uH Min, 7Adc	
	Lk. Inductance	(1,2-3,4) with (8-5) shorted	125nH MAX	
	DCR	(1,2-3,4)	17mΩ MAX	
		(8-5)	8.1Ω MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
	KI Factor	442.5		
				EP10 Platforms

Wire Wound Transformers

EP 10 and EP 13 Platforms - SMT

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C

EP13 Platforms

PA5181NL	Pri. Inductance	(1,2-9,10)	3.4uH ±15% 2.8uH Min at 10Adc	
	Lk. Inductance	(1,2-9,10) with (4,5-6,7) shorted	150nH MAX	
	DCR	(1,2-9,10)	9 mΩ MAX	
		(4,5-6,7)	11 mΩ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
	K1 Factor	298.2		

EP13 Platforms

Notes:

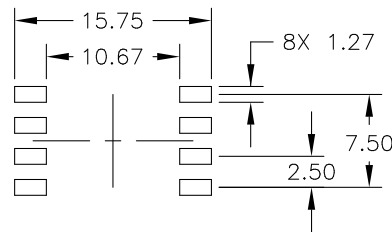
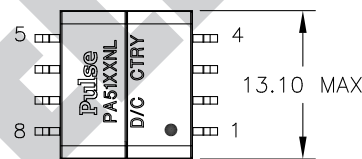
- The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
- The above transformers and inductors have been tested and approved by Pulse's power IC partners and are sited in the appropriate datasheet or evaluation board documentation at these 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.
- 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:

$$B_{pk} \text{ (Gauss)} = K1_Factor * I_{pk} \text{ (A)}$$
- In high volt-sec applications, it is important to calculate the core loss of the transformer. Approximate transformer core loss can be calculated as:

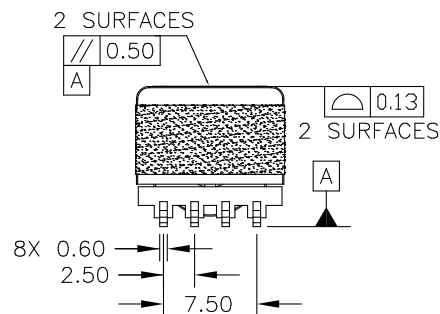
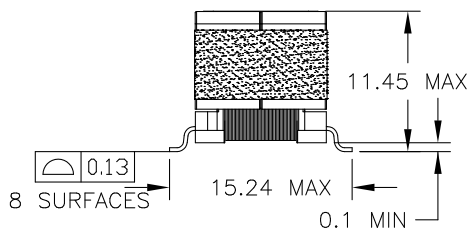
$$CoreLoss \text{ (W)} = 2.5E-14 * (Freq_kHz)^{1.63} * (\Delta B_Gauss)^{2.63}$$
 where ΔB can be calculated as:
 For Flyback Topology: $\Delta B = K1_Factor * (A)$
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PAXXXNL becomes PAXXXNLT). Pulse complies with industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=32mm), pitch (Po=24mm) and a depth (Ko=13.2mm).

Mechanical

EP10 Platform - PA5178NL, PA5179NL, PA5180NL



SUGGESTED LAND PATTERN



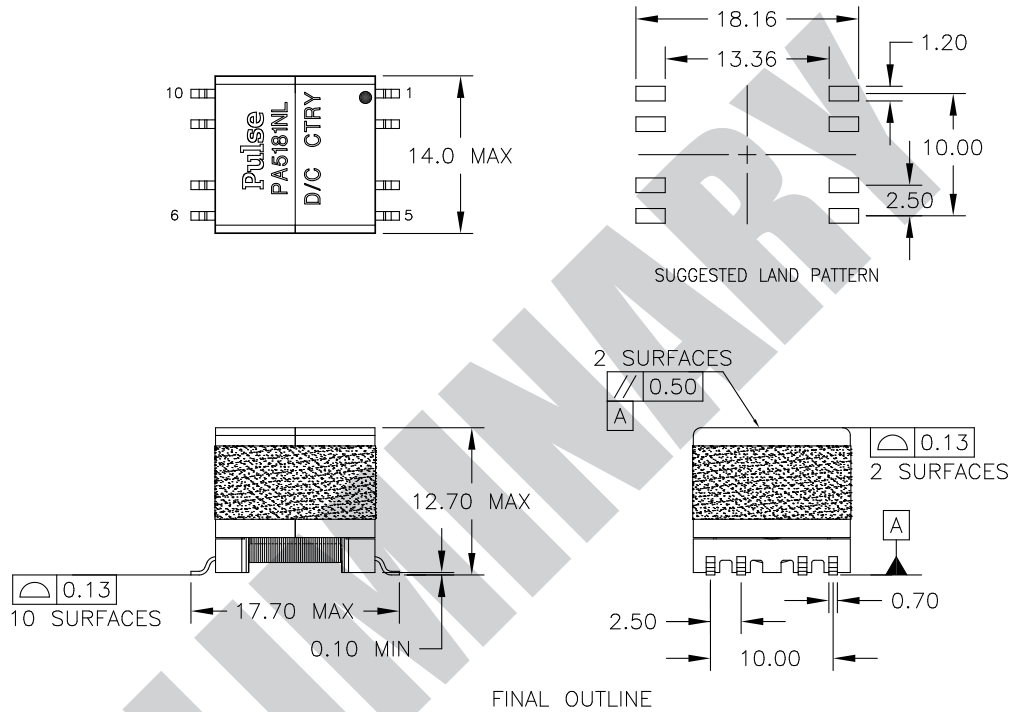
FINAL OUTLINE

Wire Wound Transformers

EP 10 and EP 13 Platforms - SMT

Mechanical

EP13 Platform - PA5181NL



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