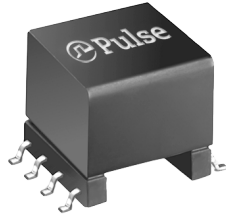




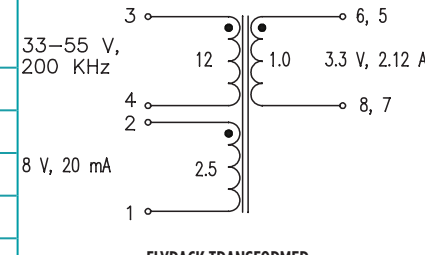
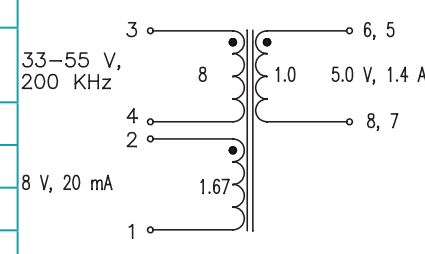
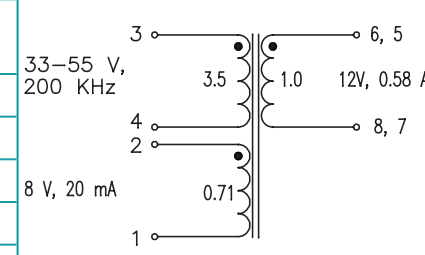


# HIGH FREQUENCY WIRE-WOUND TRANSFORMER

EP10 Platforms - SMT

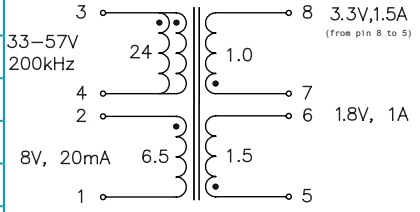
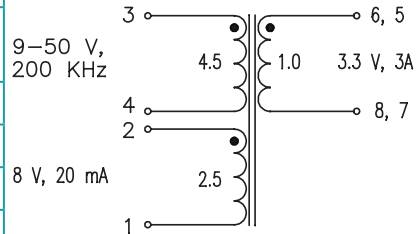
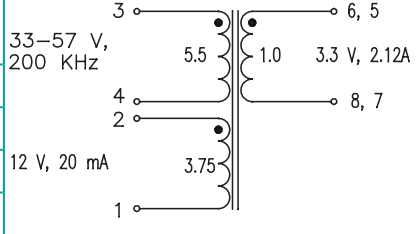
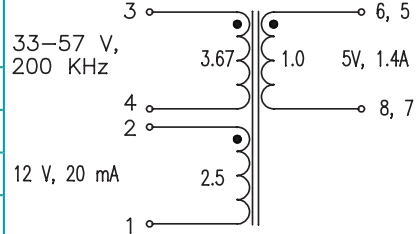


-  **Power Range:** up to 30W
-  **Height:** 11.45mm Max
-  **Footprint:** 15.24mm x 13.1mm Max
-  **Topology:** Forward and Flyback

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C				
<b>PA1133NL</b>	Pri. Inductance	(3-4)	253.4µH ± 10%	 <p>33-55 V, 200 KHz 8 V, 20 mA FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	7.5µH MAX	
	DCR	(3-4)	420mΩ MAX	
		(6, 5-8, 7)	7.5mΩ MAX	
		(2-1)	115mΩ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
K1 Factor	4671.8			
<b>PA1134NL</b>	Pri. Inductance	(3-4)	253.4µH ±10%	 <p>33-55 V, 200 KHz 8 V, 20 mA FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	7.5µH MAX	
	DCR	(3-4)	420mΩ MAX	
		(6, 5-8, 7)	16mΩ MAX	
		(2-1)	115mΩ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
K1 Factor	4671.8			
<b>PA1135NL</b>	Pri. Inductance	(3-4)	264.1µH ±10%	 <p>33-55 V, 200 KHz 8 V, 20 mA FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	6 µH MAX	
	DCR	(3-4)	800mΩ MAX	
		(6, 5-8, 7)	45mΩ MAX	
		(2-1)	115mΩ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
K1 Factor	4769.7			

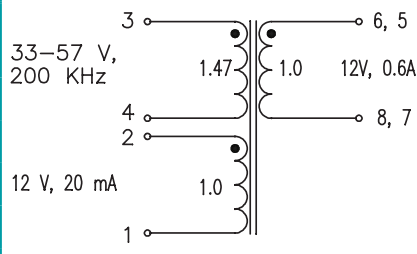
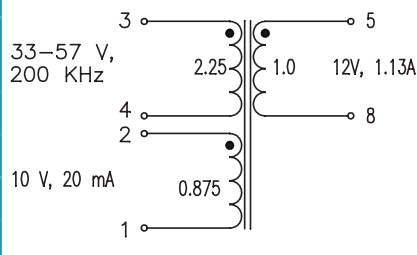
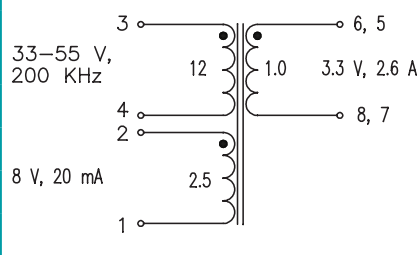
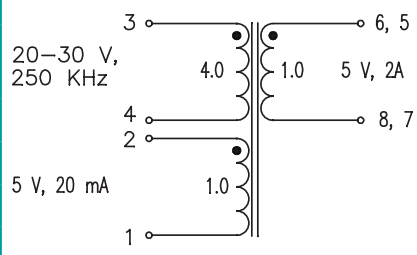
# HIGH FREQUENCY WIRE-WOUND TRANSFORMER

EP10 Platforms - SMT

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C				
PA1253NL	Pri. Inductance	(3-4)	253.4 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	12 $\mu$ H MAX	
	DCR	(3-4)	420 m $\Omega$ MAX	
		(2-1)	335 m $\Omega$ MAX	
		(5-6)	9.5 m $\Omega$ MAX	
		(7-8)	7.2 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
KI Factor	4671.8			
PA1277NL	Pri. Inductance	(3-4)	20.4 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (10, 9, 8, 7) shorted	1.5 $\mu$ H MAX	
	DCR	(3-4)	80 m $\Omega$ MAX	
		(6, 5-8, 7)	7.5 m $\Omega$ MAX	
		(2-1)	150 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
KI Factor	1002.9			
PA1282NL	Pri. Inductance	(3-4)	155 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	5 $\mu$ H MAX	
	DCR	(3-4)	530 m $\Omega$ MAX	
		(6, 5-8, 7)	31 m $\Omega$ MAX	
		(2-1)	900 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500Vrms	
KI Factor	3117.5			
PA1283NL	Pri. Inductance	(3-4)	155 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	5 $\mu$ H MAX	
	DCR	(3-4)	570 m $\Omega$ MAX	
		(6, 5-8, 7)	40 m $\Omega$ MAX	
		(2-1)	1000 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
KI Factor	3117.5			

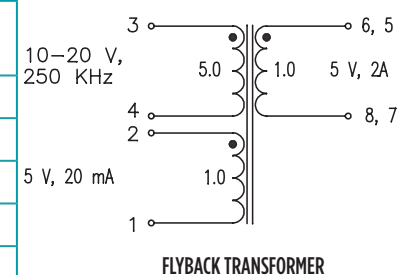
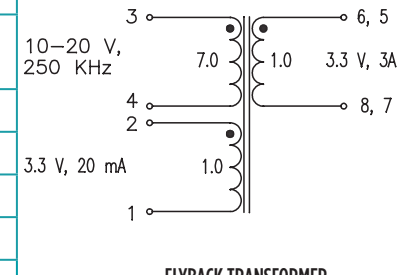
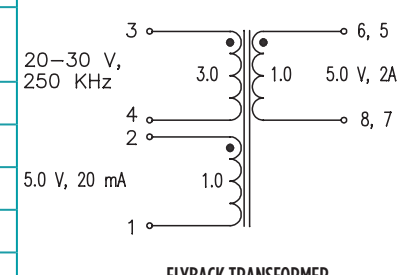
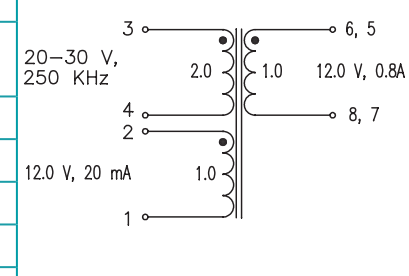
# HIGH FREQUENCY WIRE-WOUND TRANSFORMER

EP10 Platforms - SMT

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C				
<b>PA1284NL</b>	Pri. Inductance	(3-4)	155 $\mu\text{H} \pm 10\%$	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	5 $\mu\text{H} \text{ MAX}$	
	DCR	(3-4)	540 $\text{m}\Omega \text{ MAX}$	
		(6, 5-8, 7)	370 $\text{m}\Omega \text{ MAX}$	
		(2-1)	920 $\text{m}\Omega \text{ MAX}$	
	Hi-Pot	Pri-Sec	1500 $\text{Vrms}$	
KI Factor	3117.5			
<b>PA1370NL</b>	Pri. Inductance	(3-4)	20.4 $\mu\text{H} \pm 10\%$	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8,5) shorted	1.5 $\mu\text{H} \text{ MAX}$	
	DCR	(3-4)	80 $\text{m}\Omega \text{ MAX}$	
		(5-8)	30 $\text{m}\Omega \text{ MAX}$	
		(2-1)	105 $\text{m}\Omega \text{ MAX}$	
	Hi-Pot	Pri-Sec	1500 $\text{Vrms}$	
KI Factor	1002.9			
<b>PA1721NL</b>	Pri. Inductance	(3-4)	185 $\mu\text{H} \pm 10\%$	 <p>FORWARD TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	10 $\mu\text{H} \text{ MAX}$	
	DCR	(3-4)	420 $\text{m}\Omega \text{ MAX}$	
		(6, 5-8, 7)	12 $\text{m}\Omega \text{ MAX}$	
		(2-1)	115 $\text{m}\Omega \text{ MAX}$	
	Hi-Pot	Pri-Sec	1500 $\text{Vrms}$	
KI Factor	3410.8			
<b>PA2362NL</b>	Pri. Inductance	(3-4)	25.2 $\mu\text{H} \pm 10\%$	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (1, 2, 8, 7, 6, 5) shorted	0.55 $\mu\text{H} \text{ MAX}$	
	DCR	(3-4)	135 $\text{m}\Omega \text{ MAX}$	
		(6, 5-8, 7)	11 $\text{m}\Omega \text{ MAX}$	
		(2-1)	115 $\text{m}\Omega \text{ MAX}$	
	Hi-Pot	Pri-Sec	1500 $\text{Vdc}$	
KI Factor	1115.0			

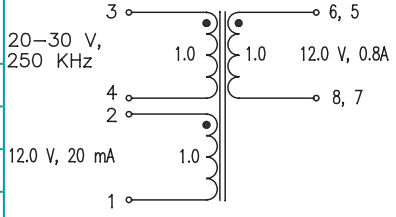
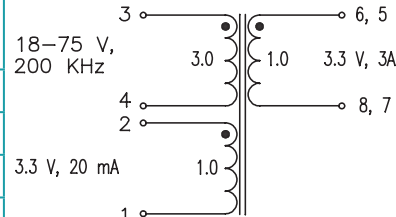
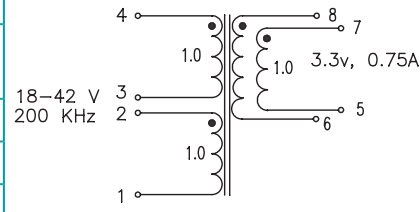
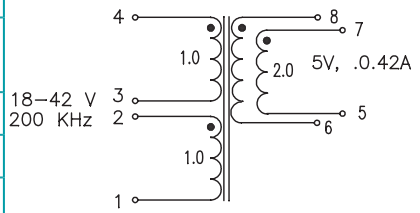
# HIGH FREQUENCY WIRE-WOUND TRANSFORMER

EP10 Platforms - SMT

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C				
<b>PA2363NL</b>	Pri. Inductance	(3-4)	25.2 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (1, 2, 8, 7, 6, 5) shorted	0.85 $\mu$ H MAX	
	DCR	(3-4)	135 m $\Omega$ MAX	
		(6, 5-8, 7)	9 m $\Omega$ MAX	
		(2-1)	180 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
	KI Factor	1115.0		
<b>PA2364NL</b>	Pri. Inductance	(3-4)	25.2 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (1, 2, 8, 7, 6, 5) shorted	1 $\mu$ H MAX	
	DCR	(3-4)	145 m $\Omega$ MAX	
		(6, 5-8, 7)	7.5 m $\Omega$ MAX	
		(2-1)	110 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
	KI Factor	1059.4		
<b>PA2454NL</b>	Pri. Inductance	(3-4)	24 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	0.75 $\mu$ H MAX	
	DCR	(3-4)	82 m $\Omega$ MAX	
		(6, 5-8, 7)	13 m $\Omega$ MAX	
		(2-1)	80 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
	KI Factor	1179.9		
<b>PA2455NL</b>	Pri. Inductance	(3-4)	24 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(1-4) with (8, 7, 6, 5) shorted	0.6 $\mu$ H MAX	
	DCR	(3-4)	90 m $\Omega$ MAX	
		(6, 5-8, 7)	23 m $\Omega$ MAX	
		(2-1)	130 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vdc	
	KI Factor	1179.9		

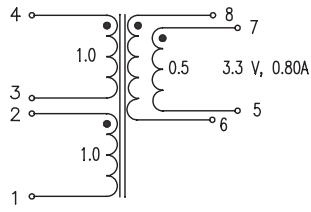
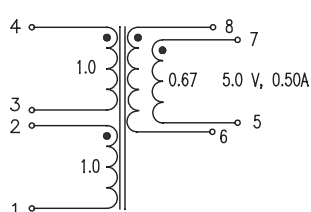
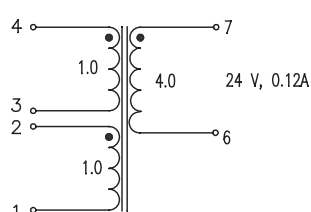
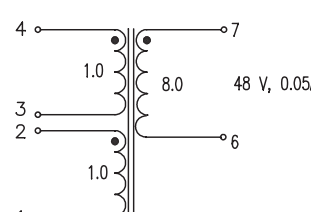
# HIGH FREQUENCY WIRE-WOUND TRANSFORMER

EP10 Platforms - SMT

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C					
PA2456NL	Pri. Inductance	(3-4)	24 $\mu$ H $\pm$ 10%		FLYBACK TRANSFORMER
	Lk. Inductance	(3,4) with (8, 7, 6, 5) shorted	0.6 $\mu$ H MAX		
	DCR	(3-4)	86 m $\Omega$ MAX		
		(6, 5-8, 7)	86 m $\Omega$ MAX		
		(2-1)	470 m $\Omega$ MAX		
	Hi-Pot	Pri-Sec	1500 Vrms		
KI Factor	1179.9				
PA2627NL	Pri. Inductance	(3-4)	50.5 $\mu$ H $\pm$ 10%		FLYBACK TRANSFORMER
	Lk. Inductance	(3-4) with (8, 7, 6, 5) shorted	1.4 $\mu$ H MAX		
	DCR	(3-4)	420 m $\Omega$ MAX		
		(6, 5-8, 7)	47 m $\Omega$ MAX		
		(2-1)	174 m $\Omega$ MAX		
	Hi-Pot	Pri-Sec	1500 Vrms		
KI Factor	1241.4				
PA3948.001NL	Pri. Inductance	(4-1) with 3,2 shorted	40 $\mu$ H $\pm$ 10%		FLYBACK TRANSFORMER
		(4-1) with 3,2 shorted	32 $\mu$ H Min at 1.88A		
	Lk. Inductance	(4-1) with (5, 6, 7, 8) shorted	1.45 $\mu$ H MAX		
	DCR	(3-4)	410 m $\Omega$ MAX		
		(6, 5-8, 7))	140 m $\Omega$ MAX		
		(2-1)	140 m $\Omega$ MAX		
Hi-Pot	Pri-Sec	1500 Vdc			
KI Factor	1241.4				
PA3948.002NL	Pri. Inductance	(4-1) with 3,2 shorted	40 $\mu$ H $\pm$ 10%		FLYBACK TRANSFORMER
		(4-1) with 3,2 shorted	32 $\mu$ H Min at 1.88A		
	Lk. Inductance	(4-1) with (5, 6, 7, 8) shorted	1.45 $\mu$ H MAX		
	DCR	(4-1)	405 m $\Omega$ MAX		
		(8-6)	470 m $\Omega$ MAX		
		(7-5)	470 m $\Omega$ MAX		
Hi-Pot	Pri-Sec	1500 Vdc			
KI Factor	983.3				

# HIGH FREQUENCY WIRE-WOUND TRANSFORMER

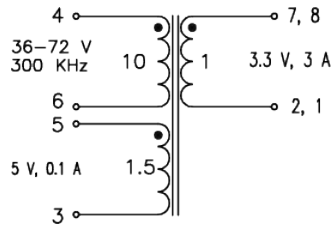
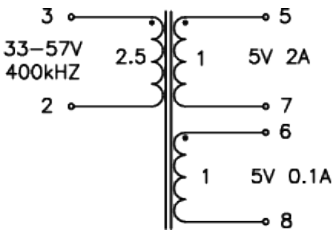
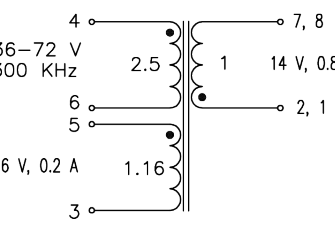
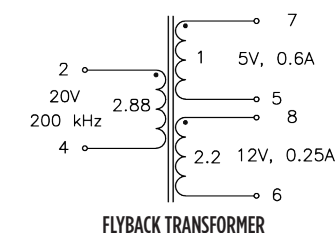
EP10 Platforms - SMT

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C <sup>2</sup>				
<b>PA3948.003NL</b>	Pri. Inductance	(4-1) with 3, 2 shorted	40 $\mu$ H $\pm$ 10%	 <p>8-36 V 200 KHz</p> <p>FLYBACK TRANSFORMER</p>
		(4-1) with 3, 2 shorted	32 $\mu$ H Min at 1.88A	
	Lk. Inductance	(4-1) with (5, 6, 7, 8) shorted	1.45 $\mu$ H MAX	
	DCR	(4-1)	405 m $\Omega$ MAX	
		(8-6)	470 m $\Omega$ MAX	
		(7-5)	470 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
K1 Factor	983.3			
<b>PA3948.004NL</b>	Pri. Inductance	(4-1) with 3, 2 shorted	40 $\mu$ H $\pm$ 10%	 <p>8-36 V 200 KHz</p> <p>FLYBACK TRANSFORMER</p>
		(4-1) with 3, 2 shorted	32 $\mu$ H Min at 1.88A	
	Lk. Inductance	(4-1) with (5, 6, 7, 8) shorted	1.45 $\mu$ H MAX	
	DCR	(4-1)	220 m $\Omega$ MAX	
		(8-6)	58 m $\Omega$ MAX	
		(7-5)	58 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
K1 Factor	983.3			
<b>PA3948.005NL</b>	Pri. Inductance	(4-1) with 3, 2 shorted	40 $\mu$ H $\pm$ 10%	 <p>8-36 V 200 KHz</p> <p>FLYBACK TRANSFORMER</p>
		(4-1) with 3, 2 shorted	32 $\mu$ H Min at 1.88A	
	Lk. Inductance	(4-1) with (5, 6, 7, 8) shorted	1.6 $\mu$ H MAX	
	DCR	(4-1)	220 m $\Omega$ MAX	
		(7-6)	1275 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
	K1 Factor	983.3		
<b>PA3918.006NL</b>	Pri. Inductance	(4-1) with 3, 2 shorted	40 $\mu$ H $\pm$ 10%	 <p>8-36 V 200 KHz</p> <p>FLYBACK TRANSFORMER</p>
		(4-1) with 3, 2 shorted	32 $\mu$ H Min at 1.88A	
	Lk. Inductance	(4-1) with (5, 6, 7, 8) shorted	1.65 $\mu$ H MAX	
	DCR	(4-1)	220 m $\Omega$ MAX	
		(7-6)	3350 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
	K1 Factor	983.3		

# HIGH FREQUENCY WIRE-WOUND TRANSFORMER

EP10 Platforms - SMT

## Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C<sup>2</sup>

Part Number	Parameter	Configuration	Value	Diagram
PB2115NL	Pri. Inductance	(4-6)	25.2 $\mu$ H $\pm$ 10%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(4-6) with (1,2,3,4,7,8) shorted	1.45 $\mu$ H MAX	
	DCR	(4-6)	250 m $\Omega$ MAX	
		(7, 8-2,1)	3.3 m $\Omega$ MAX	
		(7-5)	20 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
K1 Factor		1115.0		
PG0686NL	Pri. Inductance	(3-2)	40 $\mu$ H $\pm$ 7%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(3-2) with (5, 6, 7, 8) shorted	0.05 $\mu$ H MAX	
	DCR	(3-2)	98 m $\Omega$ MAX	
		(5-7)	50 m $\Omega$ MAX	
		(6-8)	65 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1650 Vrms	
K1 Factor		1769.9		
PG0721NL	Pri. Inductance	(4-6)	75 $\mu$ H $\pm$ 15%	 <p>FLYBACK TRANSFORMER</p>
	Lk. Inductance	(4-6) with (1,2,3,5,7,8) shorted	1 $\mu$ H MAX	
	DCR	(4-6)	110 m $\Omega$ MAX	
		(7,8-2,1)	35 m $\Omega$ MAX	
		(5-3)	85 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1500 Vrms	
K1 Factor		4424.8		
PG0855NL	Pri. Inductance	(2-4)	33.1 $\mu$ H $\pm$ 15%	 <p>FLYBACK TRANSFORMER</p>
	DCR	(2-4)	140 m $\Omega$ MAX	
		(8-6)	115 m $\Omega$ MAX	
		(7-5)	40 m $\Omega$ MAX	
	Hi-Pot	Pri-Sec	1000 Vrms	
K1 Factor		1126.6		

# HIGH FREQUENCY WIRE-WOUND TRANSFORMER

EPI0 Platforms - SMT

**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:

$$CoreLoss \text{ (W)} = 2.5E-14 * (Freq\_kHz)^{1.63} * (\Delta B\_Gauss)^{2.63}$$

where  $\Delta B$  can be calculated as:

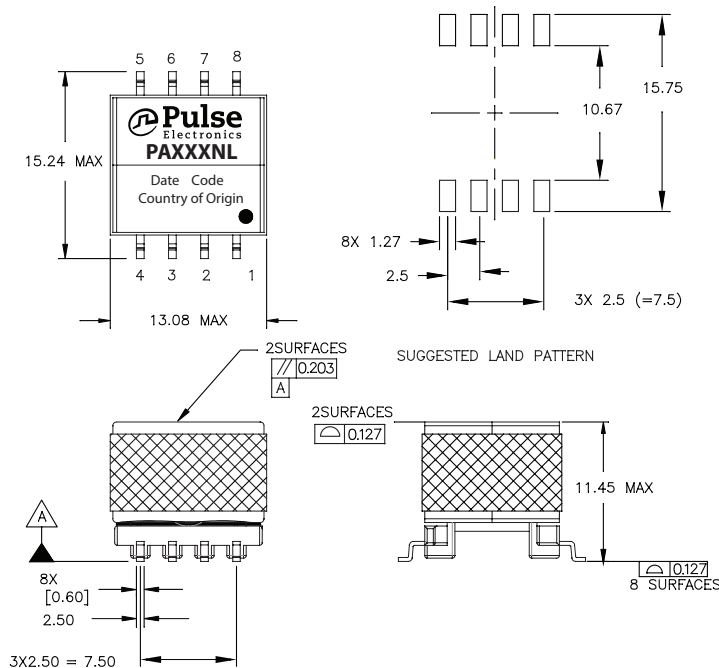
For Flyback Topology:  $\Delta B = K1\_Factor * (A)$

For Forward Topology:  $\Delta B = K1\_Factor * Volt-\mu sec$

6. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA1136NL becomes PA1136NLT). 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) an depth (Ko=13.2mm).

## Mechanical

### PAXXXNL



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