

High Frequency Wire Wound Transformers

EP13Plus Platforms - SMT PA3855/56.XXXNLT



- Industry standard footprint, 30% more power handling
- Power Range:** Up to 70W
- Height:** 14.0mm Max
- Footprint:** 17.7mm x 14.5mm Max
- Topology:** Forward and Flyback

Part Number	Electrical Specifications @25°C – Operating Temperature -40°C to 130°C ¹				Schematic
PA3855.001NL	Pri. Inductance	(1-3)	54uH +/- 10%		Flyback Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.67uH Max		
	DCR	(1-3)	62	mΩ Max	
		(9-6)	6.5		
		(10-7)	6.5		
		(4-5)	120		
	Hi-Pot	Pri-Sec	2250	Vdc	
K1 Factor	1125.0				
PA3855.002NL	Pri. Inductance	(1-3)	48uH +/- 10%		Flyback Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.67uH Max		
	DCR	(1-3)	62	mΩ Max	
		(9-6)	10		
		(10-7)	10		
		(4-5)	120		
	Hi-Pot	Pri-Sec	2250	Vdc	
K1 Factor	1000.0				
PA3855.003NL	Pri. Inductance	(1-3)	41uH +/- 10%		Flyback Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.67uH Max		
	DCR	(1-3)	62	mΩ Max	
		(9-6)	20		
		(10-7)	23		
		(4-5)	120		
	Hi-Pot	Pri-Sec	2250	Vdc	
K1 Factor	854.2				
PA3855.004NL	Pri. Inductance	(1-3)	21uH +/- 10%		Flyback Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.3uH Max		
	DCR	(1-3)	31	mΩ Max	
		(9-6)	10		
		(10-7)	10		
		(4-5)	180		
	Hi-Pot	Pri-Sec	2250	Vdc	
K1 Factor	538.5				

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Part Number	Electrical Specifications @25°C – Operating Temperature -40°C to 130°C ¹			Schematic
PA3855.005NL	Pri. Inductance	(1-3)	21uH +/- 10%	Flyback Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.3uH Max	
	DCR	(1-3)	31	
		(9-6)	14	
		(10-7)	14	
		(4-5)	180	
	Hi-Pot	Pri-Sec	2250 Vdc	
PA3855.006NL	Pri. Inductance	(1-3)	21uH +/- 10%	Flyback Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.3uH Max	
	DCR	(1-3)	31	
		(9-6)	58	
		(10-7)	58	
		(4-5)	180	
	Hi-Pot	Pri-Sec	2250 Vdc	
PA3855.008NL	Pri. Inductance	(6-9)	2.5uH +/- 10%	Flyback Transformer
	Lk. Inductance	(6-9) w/ (1,2,3,5) shorted	0.2uH Max	
	DCR	(1-2)	80	
		(3-5)	100	
		(6,7-9,10)	9	
	Hi-Pot	Pri-Sec	2250 Vdc	
	K1 Factor		208.3	
PA3856.001NL	Pri. Inductance	(1-3)	100 uH +/- 15%	Forward Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.4uH Max	
	DCR	(1-3)	29.4	
		(9-6)	6.5	
		(10-7)	6.5	
		(4-5)	120	
	Hi-Pot	Pri-Sec	2250 Vdc	
PA3856.002N	Pri. Inductance	(1-3)	100uH +/- 15%	Forward Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.4uH Max	
	DCR	(1-3)	29.4	
		(9-6)	10	
		(10-7)	10	
		(4-5)	120	
	Hi-Pot	Pri-Sec	2250 Vdc	
	K1 Factor		27.8	

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Part Number	Electrical Specifications @25°C – Operating Temperature -40°C to 130°C ¹				Schematic
PA3856.003NL	Pri. Inductance	(1-3)	100uH +/- 15%		Forward Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.4uH Max		
	DCR	(1-3)	29.4	mΩ Max	
		(9-6)	31.6		
		(10-7)	36		
		(4-5)	120		
	Hi-Pot	Pri-Sec	2250 Vdc		
K1 Factor	27.8				
PA3856.004NL	Pri. Inductance	(1-3)	128uH +/- 25%		Forward Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.15uH Max		
	DCR	(1-3)	17.6	mΩ Max	
		(9-6)	14.4		
		(10-7)	17		
		(4-5)	410		
	Hi-Pot	Pri-Sec	2250 Vdc		
K1 Factor	41.7				
PA3856.005NL	Pri. Inductance	(1-3)	128uH +/- 15%		Forward Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.15uH Max		
	DCR	(1-3)	17.6	mΩ Max	
		(9-6)	31.6		
		(10-7)	36		
		(4-5)	410		
	Hi-Pot	Pri-Sec	2250 Vdc		
K1 Factor	41.7				
PA3856.006NL	Pri. Inductance	(1-3)	128uH +/- 15%		Forward Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.15uH Max		
	DCR	(1-3)	17.6	mΩ Max	
		(9-6)	105.6		
		(10-7)	122		
		(4-5)	426		
	Hi-Pot	Pri-Sec	2250 Vdc		
K1 Factor	41.7				
PA3856.007NL	Pri. Inductance	(1-2)	200uH +/- 25%		Forward Transformer
	Lk. Inductance	(1-2) w/ (7,8,9,10) shorted	0.36uH Max		
	DCR	(1-2)	60	mΩ Max	
		(3-4)	75		
		(8-7)	90		
		(10-9)	90		
	Hi-Pot	Pri-Sec	2250 Vdc		
K1 Factor	33.3				

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Notes:

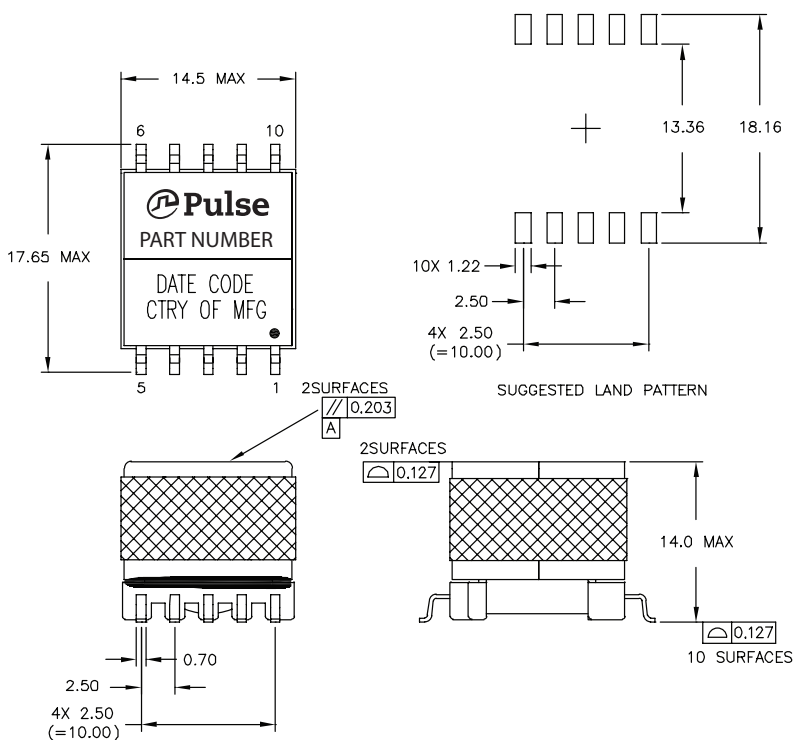
1. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
2. For flyback topology applications, it is necessary to ensure that the transformer will not saturate in the application. The peak flux density (Bpk) should remain below 2700Gauss. To calculate the peak flux density use the following formula:

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

$$CoreLoss \text{ (W)} = 3.84E-14 * (Freq_kHz)^{1.65} * (\Delta B_Gauss)^{2.65}$$
 where ΔB can be calculated as:
 For Flyback Topology: $\Delta B = K1_Factor * \Delta I(A)$
 For Forward Topology: $\Delta B = K1_Factor * Volt\text{-}\mu sec$
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. PA2160.001NL becomes PA2160.001NLT). Pulse complies with industry standard tape and reel specification EIA481.

Mechanical

PM2160.XXXNL

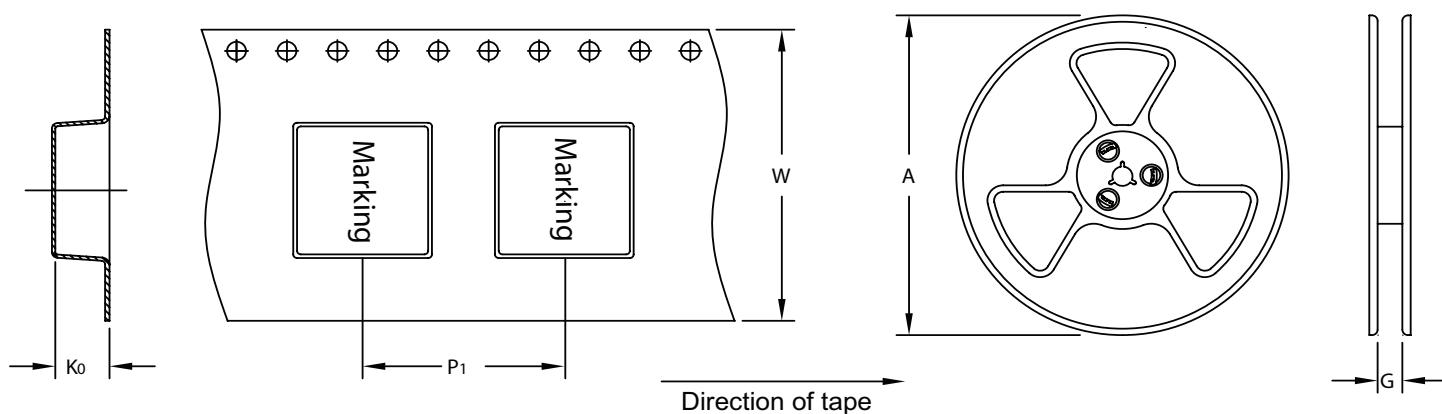


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TAPE & REEL INFO



SURFACE MOUNTING TYPE, REEL/TAPE LIST

PART NUMBER	REEL SIZE (mm)		TAPE SIZE (mm)			QTY PCS/REEL
	A	G	P ₁	W	K ₀	
PA3855/56.XXXNLT	Ø330	32.4	24	32	13.2	130

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