

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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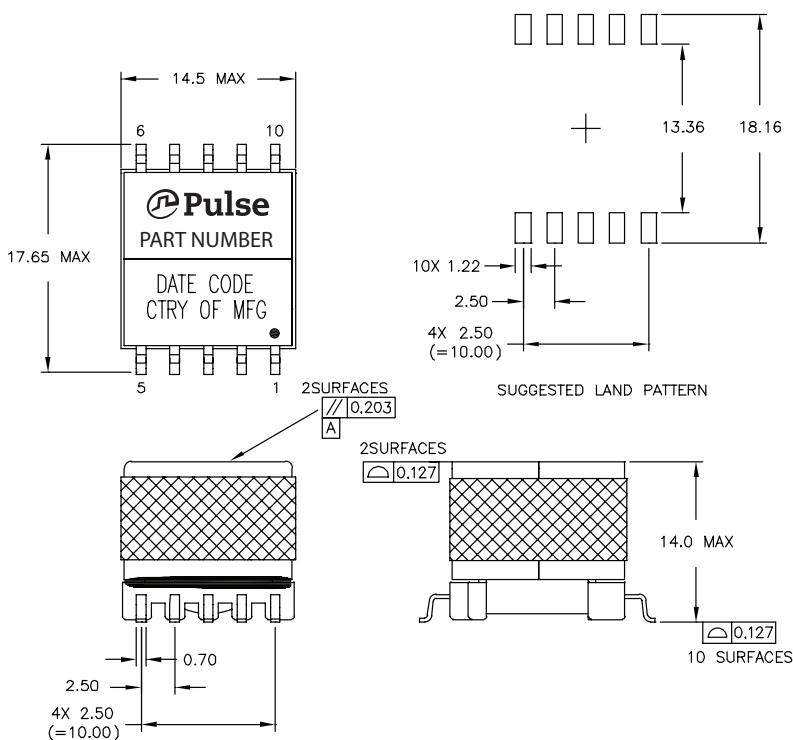


Notes:

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- μ sec applications, it is important to calculate the core loss of the transformer. Approximate transformer core loss can be calculated as:
$$CoreLoss \text{ (W)} = 3.84E-14 * (Freq_kHz)^{1.65} * (\Delta B_Gauss)^{2.65}$$
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

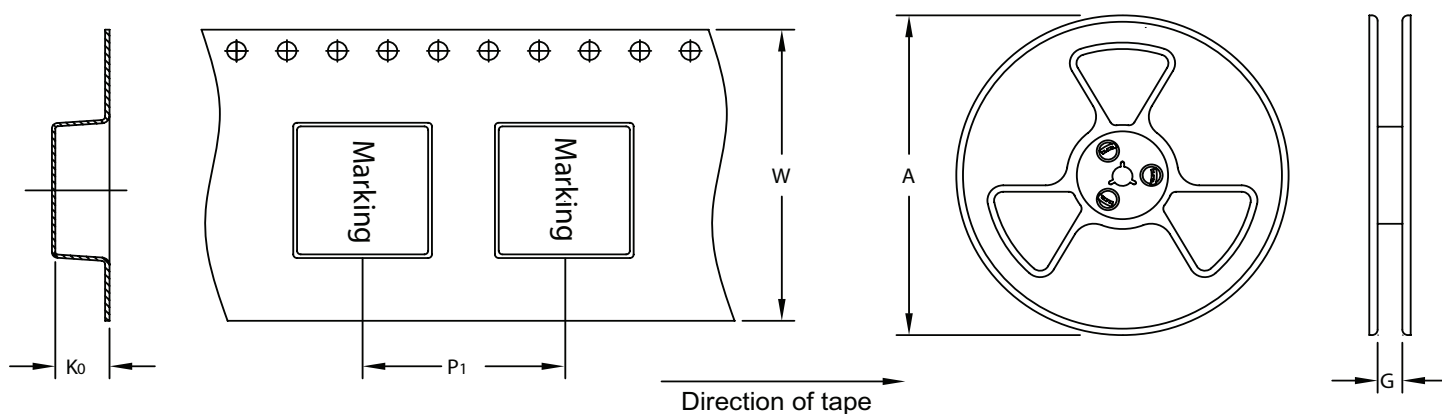


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TAPE & REEL INFO



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

For More Information

Pulse Worldwide Headquarters

15255 Innovation Drive Ste 100
San Diego, CA 92128
U.S.A.

Pulse Europe

Pulse Electronics GmbH
Am Rottland 12
58540 Meinerzhagen
Germany

Pulse China Headquarters

Pulse Electronics (ShenZhen) CO., LTD
D708, Shenzhen Academy of
Aerospace Technology,
The 10th Keji South Road,
Nanshan District, Shenzhen,
P.R. China 518057

Pulse North China

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

Pulse South Asia

3 Fraser Street
0428 DUO Tower
Singapore 189352

Pulse North Asia

1F., No.111 Xiyuan Rd
Zhongli City
Taoyuan City 32057
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 21 62786973

Tel: 65 6287 8998
Fax: 65 6280 0080

Tel: 886 3 4356768
Fax: 886 3 4356820

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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9