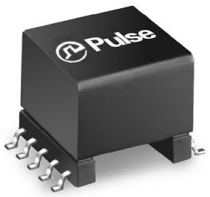
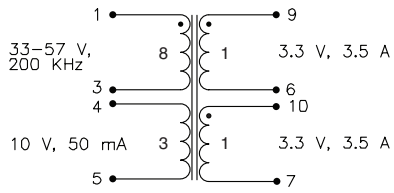
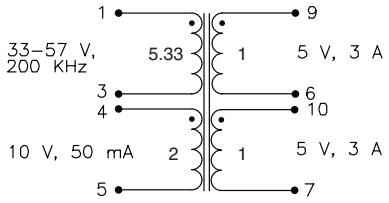
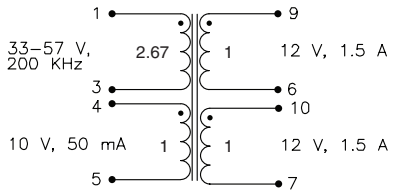
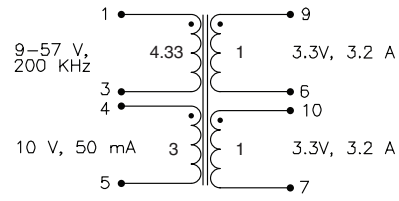
High Frequency Wire Wound Transformers

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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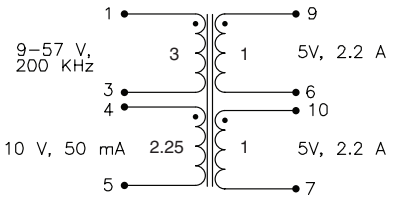
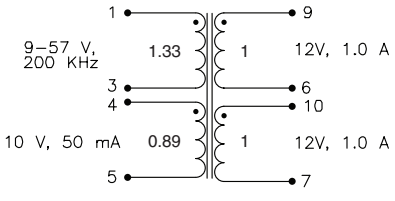
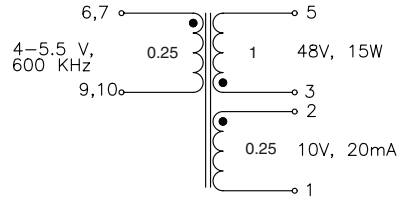
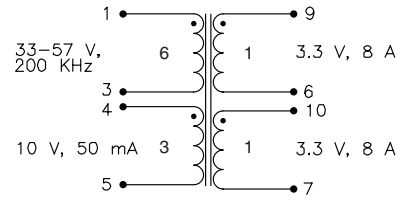
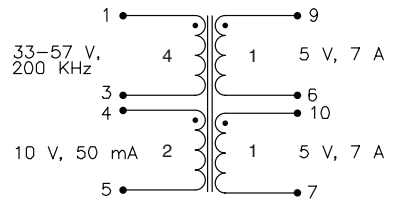
PA3855.005NL	Pri. Inductance	(1-3)	21uH +/- 10%		
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.3uH Max		
	DCR	(1-3)	31	mΩ Max	
		(9-6)	14		
		(10-7)	14		
		(4-5)	180		
	Hi-Pot	Pri-Sec	2250	Vdc	
	K1 Factor	583.3			Flyback Transformer
PA3855.006NL	Pri. Inductance	(1-3)	21uH +/- 10%		
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.3uH Max		
	DCR	(1-3)	31	mΩ Max	
		(9-6)	58		
		(10-7)	58		
		(4-5)	180		
	Hi-Pot	Pri-Sec	2250	Vdc	
	K1 Factor	583.3			Flyback Transformer
PA3855.008NL	Pri. Inductance	(6-9)	2.5uH +/- 10%		
	Lk. Inductance	(6-9 w/ (1,2,3,5) shorted	0.2uH Max		
	DCR	(1-2)	80	mΩ Max	
		(3-5)	100		
		(6,7-9,10)	9		
	Hi-Pot	Pri-Sec	2250	Vdc	
	K1 Factor	208.3			Flyback Transformer
PA3856.001NL	Pri. Inductance	(1-3)	100	uH +/- 15%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.4uH Max		
	DCR	(1-3)	29.4	mΩ Max	
		(9-6)	6.5		
		(10-7)	6.5		
		(4-5)	120		
	Hi-Pot	Pri-Sec	2250	Vdc	
	K1 Factor	27.8			Forward Transformer
PA3856.002N	Pri. Inductance	(1-3)	100uH +/- 15%		
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.4uH Max		
	DCR	(1-3)	29.4	mΩ Max	
		(9-6)	10		
		(10-7)	10		
		(4-5)	120		
	Hi-Pot	Pri-Sec	2250	Vdc	
	K1 Factor	27.8			Forward Transformer

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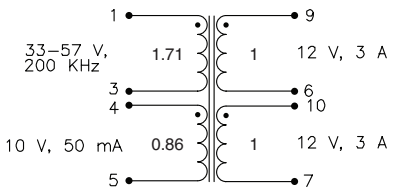
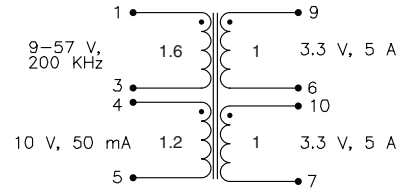
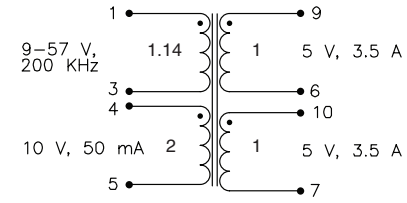
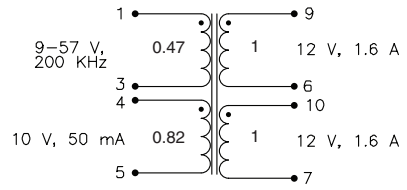
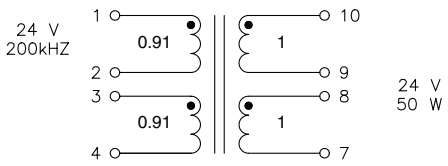
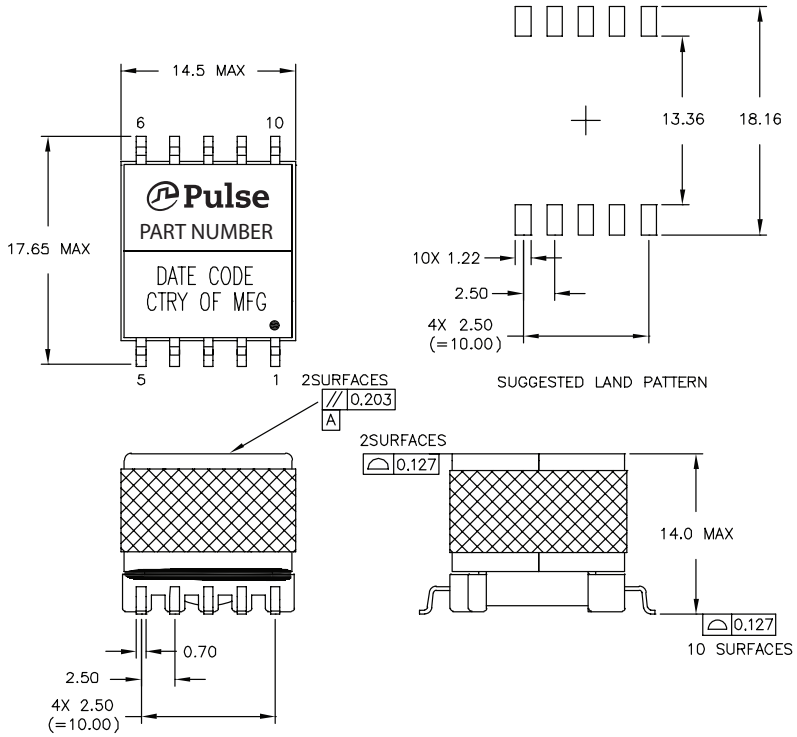
PA3856.003NL	Pri. Inductance	(1-3)	100uH +/- 15%		 Forward Transformer
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	0.4uH Max		
	DCR	(1-3)	29.4	mΩ Max	
		(9-6)	31.6		
		(10-7)	36		
		(4-5)	120		
	Hi-Pot	Pri-Sec	2250	Vdc	
	K1 Factor	27.8			
PA3856.004NL	Pri. Inductance	(1-3)	128uH +/- 25%		 Forward 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			

Notes:

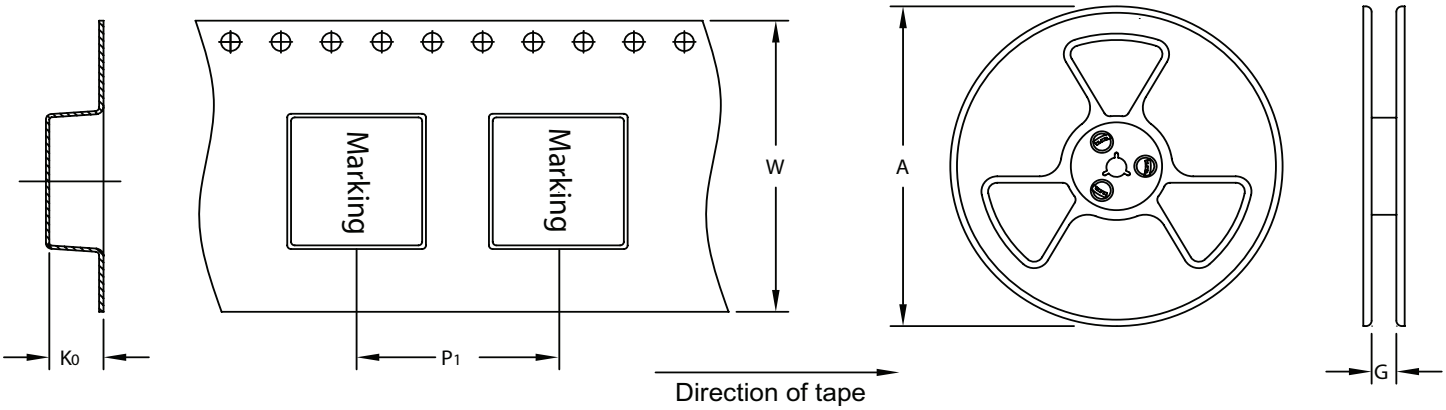
1. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
2. For flyback topology applications, it is necessary to ensure that the transformer will not saturate in the application. The peak flux density (Bpk) should remain below 2700Gauss. To calculate the peak flux density use the following formula:
   Bpk (Gauss) = K1_Factor * Ipk(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 (W) = 3.84E-14 * (Freq_kHz)$^{1.63}$ * (ΔB_Gauss)$^{2.63}$
   where ΔB can be calculated as:
   For Flyback Topology: ΔB = K1_Factor * ΔI(A)
   For Forward Topology: ΔB = K1_Factor * Volt-µsec
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



TAPE & REEL INFO



SURFACE MOUNTING TYPE, REEL/TAPE LIST						
PART NUMBER	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P_1	W	K_0	PCS/REEL
PA3855/56.XXXNLT	Ø330	32.4	24	32	13.2	130

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