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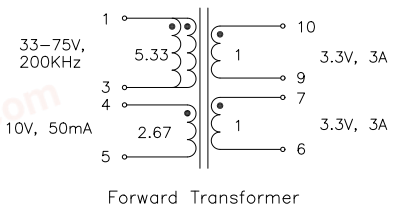
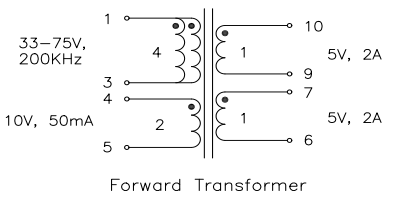
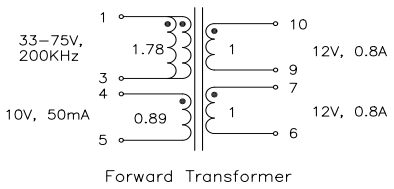
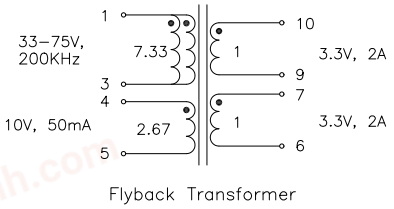
High Frequency Wire Wound Transformers

EP13 Reinforced Insulation - PA5000.XXXNL, PA5111.XXXNL, PA5112.XXXNL

YAGEO GROUP PULSE



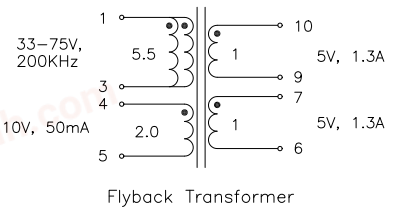
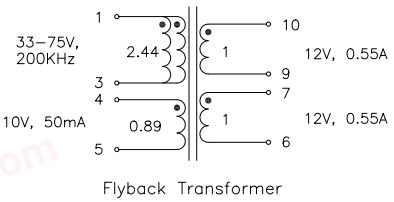
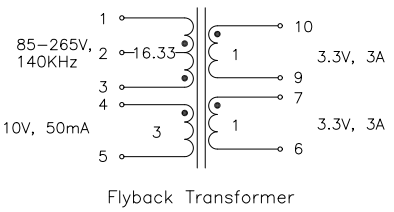
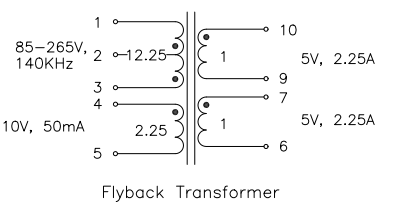
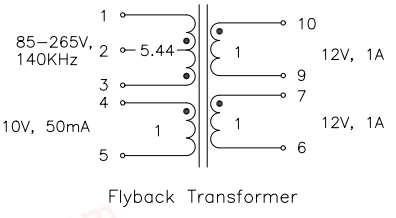
- *Industry standard footprint with reinforced insulation*[4]
- ***Power Range:*** *Up to 24W*
- ***Height:*** *16.5mm Max*
- ***Footprint:*** *17.7mm x 13.5mm Max*
- ***Topology:*** *Forward and Flyback*
- *>8.0mm creepage, 3.0kVrms Isolation*

Pulse PN	Electrical Specifications @25°C – Operating Temperature -40°C to 130°C [1]				Schematic
PA5000.001NL	Pri. Inductance	(1-3)	100	uH +/- 15%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.0	uH Max	
	DCR	(1-3)	150	mΩ Max	
		(10-9)	15		
		(7-6)	15		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	32.9			
PA5000.002NL	Pri. Inductance	(1-3)	100	uH +/- 15%	
	Lk. Inductance	(10-9)	1.0	uH Max	
	DCR	(1-3)	150	mΩ Max	
		(10-9)	20		
		(7-6)	20		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	32.9			
PA5000.003NL	Pri. Inductance	(1-3)	100	uH +/- 15%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.0	uH Max	
	DCR	(1-3)	150	mΩ Max	
		(10-9)	50		
		(7-6)	50		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	32.9			
PA5111.001NL	Pri. Inductance	(1-3)	80	uH +/- 10%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.5	uH Max	
	DCR	(1-3)	180	mΩ Max	
		(10-9)	15		
		(7-6)	15		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	1913			

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High Frequency Wire Wound Transformers

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Pulse PN	Electrical Specifications @25°C – Operating Temperature -40°C to 130°C [1]				Schematic
PA5111.002NL	Pri. Inductance	(1-3)	80	uH +/- 10%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.5	uH Max	
	DCR	(1-3)	180	mΩ Max	
		(10-9)	20		
		(7-6)	20		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	1913			
PA5111.003NL	Pri. Inductance	(1-3)	80	uH +/- 10%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	1.5	uH Max	
	DCR	(1-3)	180	mΩ Max	
		(10-9)	50		
		(7-6)	50		
		(4-5)	500		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	1913			
PA5112.001NL	Pri. Inductance	(1-3)	173	uH +/- 10%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	5.5	uH Max	
	DCR	(1-3)	550	mΩ Max	
		(10-9)	15		
		(7-6)	15		
		(4-5)	240		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	2579			
PA5112.002NL	Pri. Inductance	(1-3)	173	uH +/- 10%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	5.5	uH Max	
	DCR	(1-3)	550	mΩ Max	
		(10-9)	20		
		(7-6)	20		
		(4-5)	240		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	2355			
PA5112.003NL	Pri. Inductance	(1-3)	173	uH +/- 10%	
	Lk. Inductance	(1-3) w/ (10,9,6,7,4,5) shorted	5.5	uH Max	
	DCR	(1-3)	550	mΩ Max	
		(10-9)	50		
		(7-6)	50		
		(4-5)	240		
	Hi-Pot	Pri-Sec	3000	Vac	
	K1 Factor	2305			

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High Frequency Wire Wound Transformers

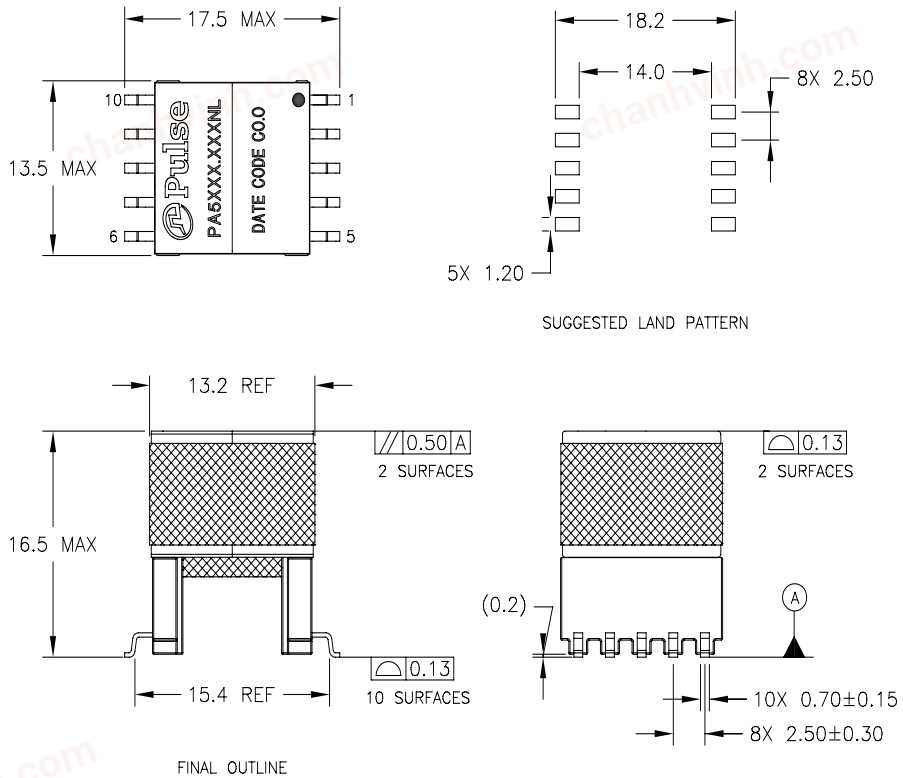
EP13 Reinforced Insulation - PA5000.XXXNL, PA5111.XXXNL, PA5112.XXXNL

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 3250Gauss. 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. This series complies with the requirements of IEC 61558-1 and IEC61558-2-16 for reinforced insulation to a working voltage of 380Vrms (for basic insulation to a working voltage of 800Vrms) based on material group III, pollution degree 2, OVC II and 5000m altitude.
5. Optional Tape & Reel packaging can be ordered by adding a "**T**" suffix to the part number (i.e. (PA5000.001NL becomes PA5000.001NL**T**). 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 depth (Ko=17.05mm).

Mechanical

PA5000.XXNL/ PA5111.XXNL/ PA5112.XXXNL



For More Information:

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