HIGH FREQUENCY PLANAR TRANSFORMERS







Power Rating: up to 250W

• Height: 9.1mm to 10.4mm max

Footprint: 29.5mm x 26.7mm Max

Frequency Range: 200kHz to 700kHz

Isolation (Primary to Secondary): 1750V_{DC}

	Electrical	Specificatio	ns @ 25 °	C – Operatin	g Temperat	ure – 4	0°C to +	125 °C		
Part Number	Turns Ratio Primary	Secondary	Schematic	Primary* Inductance (µH MIN)	Leakage** Inductance (µH MAX)	Primary A	DCR Primary B	(m \Omega MAX Primary Aux.	Secondary	Height MAX (mm)
DOUBLE INTERL	EAVE DESIGNS (HIGHER EFFIC	CIENCY, LOWER DCR A	ND LOWER LEAKA	GE)						
R8201NL	4T & 4T			216	0.3	13	13	_		
R8203NL	5T & 5T (w/5T aux)	4T	Al	340	0.2	15	15	235		
R8205NL	6T & 6T (w/2T aux)	 (1T:1T:1T:1T)		480	0.35	21	21	78	4.5	10.2
R8207NL	7T & 7T (w/3T aux)			660	0.45	50	50	100		
R8209NL	8T & 8T			860	0.5	45	45	_		
R8208NL	4T & 4T			216	0.2	13	13	_		
R8210NL	5T & 5T (w/5T aux)			340	0.3	15	15	235		
R8212NL	6T & 6T (w/2T aux)	1T & 1T	A2	480	0.35	21	21	78	0.56 & 0.56	10.2
R8214NL	7T & 7T (w/3T aux)			660	0.45	50	50	100		
R8216NL	8T & 8T			860	0.5	45	45	_		
SINGLE INTERL	EAVE DESIGNS 4T			54	0.2	13	_	_		
R8230NL	5T (w/5T aux)		B1	85	0.2	15		470	4.5	9.1
R8231NL	6T (w/2T aux)	4T		120	0.35	21		160		
R8232NL	7T (w/3T aux)	(1T:1T:1T:1T)		165	0.35	50		200		
	8T			215	0.43	45	_	200		
	4T			54	0.3	13				
R8234NL			B2	85	0.2	15		470	40 & 40	9.1
R8235NL	5T (w/5T aux)	7T & 7T		120		21				
R8236NL	6T (w/2T aux) 7T (w/3T aux)	/ & /		165	0.35 0.45	50		160 200		
R8237NL	71 (W/ 31 dux) 8T			215	0.45				-	
R8247NL	4T			54	0.3	45 13				
R8238NL	5T (w/5T aux)			85	0.2	15		470	1.12 & 1.12	9.1
R8239NL	,	11 & 11	B2	120	0.35	21		160		
	6T (w/2T aux)	11 & 11		165		50		200		
	7T (w/3T aux)				0.45			200	-	
R8248NL	8T			215 54	0.5	45				
	47		В3	85	0.2	13	_	470	-	9.1
	5T (w/5T aux)	07.0.17			0.3	15		470		
R8244NL	6T (w/2T aux)	2T & 1T		120	0.35	21	_	160	1.8 & 0.6	
R8245NL	7T (w/3T aux)			165	0.45	50	_	200		
R8249NL	8T			215	0.5	45	_	_		

Notes: 1. Option Tape & Reel packaging can be ordered by adding a "T" suffix at the end of the part number (i.e. R8235NLT).



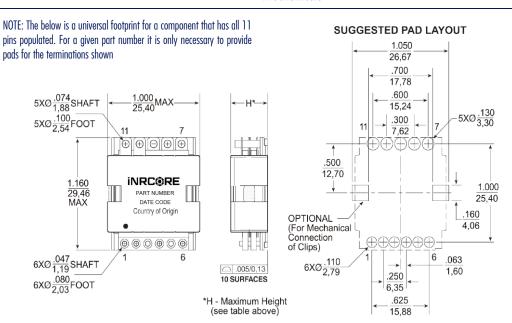
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HIGH FREQUENCY PLANAR TRANSFORMERS

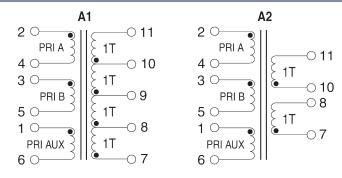
Industrial Grade



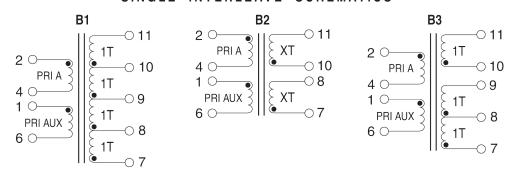
Mechanicals



Electrical Schematics



- SINGLE INTERLEAVE SCHEMATICS -





HIGH FREQUENCY PLANAR TRANSFORMERS





R82XXNL Transformer Winding Configuration Matrix

R82XXNL Planar Transformer Platform. The package is typically capable of handling between determine the approximate power dissipation and temperature rise of the component 150-250W of power depending on the application, ambient conditions and available cooling.

The following is a matrix of the winding configurations that are pos-sible with the iNRCORE Once a configuration is selected, the formulae and charts can be used to in a given application.

					High Efficie	ncy Double I	nterleaved D	esigns					
	SECONDARY WINDINGS												
					Single Winding			Dual Winding					
		Turns		11	2T	4T	1:1	1:3	2:2	1T & 1T			
			DCR $(m \Omega)$	0.28	1.12	4.5	1.12	4.5	4.5	1.12			
	Single Winding	4T	5	R8208NL	R8208NL	R8201NL	R8208NL	R8201NL	R8201NL	R8208NL			
PRIMARY WINDINGS		5T	7.5	R8210NL	R8210NL	R8203NL	R8210NL	R8203NL	R8203NL	R8210NL			
		6T	12	R8212NL	R8212NL	R8205NL	R8212NL	R8205NL	R8205NL	R8212NL			
		7T	30	R8214NL	R8214NL	R8207NL	R8214NL R8207NL		R8207NL	R8214NL			
		8T	20	R8208NL	R8208NL	R8201NL	R8208 NL	R8201NL	R8201NL	R8208NL			
		10T	30	R8210NL	R8210NL	R8203NL	R8210NL	R8203NL	R8203NL	R8210NL			
		12T	48	R8212NL	R8212NL	R8205NL	R8212NL	R8205NL	R8205NL	R8212NL			
		14T	120	R8214NL	R8214NL	R8207NL	R8214NL	R8207NL	R8207NL	R8214NL			
		16T	140	R8216NL	R8216NL	R8209NL	R8216NL	R8209NL	R8209NL	R8216NL			
	Dual Winding	4T & 4T	20	R8208NL	R8208NL	R8201NL	R8208NL	R8201NL	R8201NL	R8208NL			
		5T & 5T	30 R8210NL		R8210NL	R8203NL	R8210NL	R8203NL	R8203NL	R8210NL			
		6T & 6T	6T & 6T 48 R8212NL R8212NL		R8212NL	R8205NL	R8212NL	R8205NL	R8205NL	R8212NL			
		7T & 7T	T & 7T 120 R8214NL F		R8214NL	R8207NL	R8214NL	R8207NL	R8207NL	R8214NL			
		8T & 8T	. 8T 140 R8216NL		R8216NL	R8209NL	R8216NL	R8209NL	R8209NL	R8216NL			

	Lower Cost Single Interleaved Designs															
	SECONDARY WINDINGS															
	Single Winding Tapped Winding									Dual Winding						
	Turns			11	2T	3T	4T	7 T	1:1	1:2	1:3	2:2	7:7	11 & 11	1T & 2T	7T & 7T
			$ \begin{array}{c} \text{DCR} \\ (\text{m}\Omega) \end{array} $	0.56	2.24	3.4	4.5	20	2.24	3.4	4.5	4.5	80	2.24	4.5	80
S		4T	10	R8238NL	R8238NL	R8242NL	R8230NL	R8234NL	R8238NL	R8242NL	R8230NL	R8230NL	R8234NL	R8238NL	R8242NL	R8234NL
PRIMARY WINDINGS	g	5T	15	R8239NL	R8239NL	R8243NL	R8231NL	R8235NL	R8239NL	R8243NL	R8231NL	R8231NL	R8235NL	R8239NL	R8243NL	R8235NL
	Single Winding	6T	24	R8240NL	R8240NL	R8244 NL	R8232NL	R8236NL	R8240NL	R8244NL	R8232NL	R8232NL	R8236NL	R8240NL	R8244NL	R8236NL
	ingle	7 T	60	R8241NL	R8241NL	R8245NL	R8233NL	R8237NL	R8241NL	R8245NL	R8233NL	PR8233NL	R8237NL	R8241NL	R8245NL	R8237NL
	S	8T	70	R8248NL	R8248NL	R8249NL	PR8246NL	R8247NL	R8248NL	R8249NL	R8246NL	R8246NL	R8247NL	R8248NL	R8249NL	R8247NL

NOTES: 1. The base PN (ie: R8201NL) uses an ungapped core. The minimum primary inductance for any configuration can be calculated as: Primary Inductance (μ H Min) = 3.4 * (Primary Turns)²

- 2. The above base part numbers (R82XXNL) are available from stock
- 3. It is possible to add a small gap to the transformer. Gapped transformers are non-standard and can be made available upon request, but are not typically available from stock. To request a gapped version of the transformer, add a suffix "G" to the base number (ie: R8201GNL). The nominal inductance with a gap can be calculated as: Primary Inductance (μ H Nominal) = 2.2 * (Primary Turns)²



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