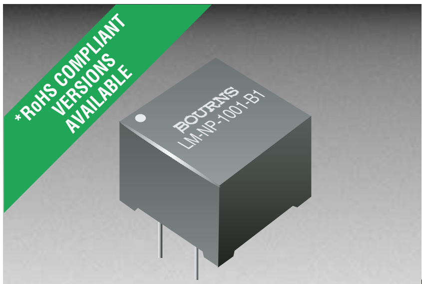


BOURNS®

Features

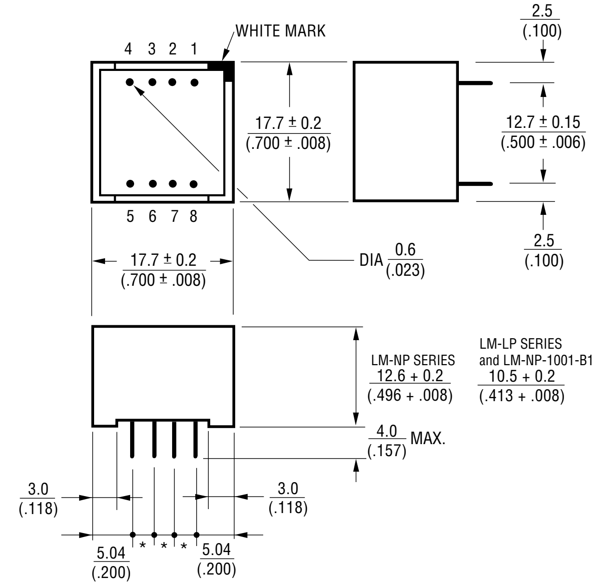
- Fully encapsulated
- Low profile
- High dielectric strength
- Ten models available
- Ex stock
- Competitively priced
- Lead free version available (see How to Order)
- Lead free versions are RoHS compliant*

Applications

- Line matching
- Fax modem

LM-NP/-LP 1000 Series - Line Matching Transformers

Product Dimensions



*:pitch = 1/10 " = 2.54 (.100) (for number of pins see pin assignment)

Note:

The LM-NP/-LP-1000 Series Line Matching Transformers meet the return loss specifications of BS 6305.

It is important, however, to use the circuit recommended by BS 6305 for return loss measurements.

The LM-NP-1000 Series are EN 41003 approved.

DIMENSIONS ARE: $\frac{\text{MM}}{\text{(INCHES)}}$

How to Order

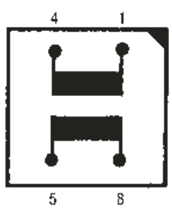
LM-xP-100x-xx __

Model

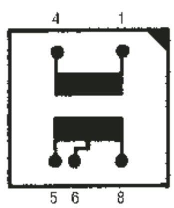
Termination
Blank = Tin-lead
L = Tin only (lead free)

Pin Assignment and Winding Configurations (Bottom View)

LM-NP-1001-B1
LM-LP-1001

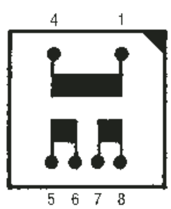


LM-NP-1002
LM-LP-1002



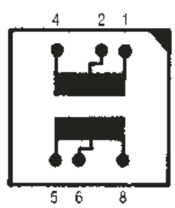
one-winding center-tapped*

LM-NP-1003
LM-LP-1003



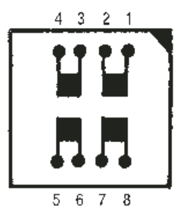
one winding split*

LM-NP-1004
LM-LP-1004



both windings center-tapped

LM-NP-1005
LM-LP-1005



both windings split

* Due to the unique design and the most advanced manufacturing techniques the 2 coils are fully identical, meaning there is no real primary nor secondary winding. Depending on the application, the transformers can be used either way.

*RoHS Directive 2002/95/EC Jan 27 2003 including Annex

LM-NP/-LP 1000 Series - Line Matching Transformers

BOURNS®

Part Numbers And Specifications

Parameters		Unit	LM-NP 1001-B1	LM-NP 1002	LM-NP 1003	LM-NP 1004	LM-NP 1005	LM-LP 1001	LM-LP 1002	LM-LP 1003	LM-LP 1004	LM-LP 1005
Ref. Temperature Data		°C	25	25	25	25	25	25	25	25	25	25
Impedance (min./at 1.0 kHz)	Primary	Ω	600	600	600	600 (150, 150)	600 (150+150)	600	600	600	600 (150, 150)	600 (150+150)
	Secondary	Ω	600	600 (150,150)	600 (150+150)	600 (150,150)	600 (150+150)	600	600 (150,150)	600 (150+150)	600 (150,150)	600 (150+150)
Inductance (min./at 0.2 kHz)	Primary	H	2.8	2.8	2.8	2.8 (0.7, 0.7)	2.8 (0.7+0.7)	2.8	2.8	2.8	2.8 (0.7, 0.7)	2.8 (0.7+0.7)
	Secondary	H	2.8	2.8 (0.7,0.7)	2.8 (0.7+0.7)	2.8 (0.7,0.7)	2.8 (0.7+0.7)	2.8	2.8 (0.7,0.7)	2.8 (0.7+0.7)	2.8 (0.7,0.7)	2.8 (0.7+0.7)
DC-Resistance (typical/±10 %)	Primary	Ω	66	66	66	66 (33,33)	66 (33+33)	90	90	90	90 (45,45)	90 45+45)
	Secondary	Ω	66	66 (33,33)	66 (33+33)	66 (33,33)	66 (33+33)	90	90 (45,45)	90 (45+45)	90 (45,45)	90 45+45)
Turns Ratio (≤ ±2 %)		—	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Winding Configurations		—	—	one winding center tapped	one winding split	both windings center tapped	both windings split	—	one winding center tapped	one winding split	both windings center tapped	both windings split
Insertion Loss (at 2.0 kHz)		dB	≤ 1.5					≤ 2.0				
Return Loss	Transformer (0.2 - 4.0 kHz)	dB	≥ 10.0					≥ 8.0				
	In Networks		≥ 21.0					≥ 20.0				
Shunt Loss (typical)		kΩ	9.0					9.0				
Frequency Response (typ./0.2 - 3.5 kHz)		dB	- 0.3					- 0.5				
Wide Band Response (0.2 - 10.0 kHz)		dB	- 2.5					- 4.5				
Power Level		dBm	- 45.0 to + 3.0					- 43.0 to + 3.0				
Longitudinal Balance (0.3 - 4.0 kHz)		dB	-80.0					- 70.0				
Distortion (0 dB/at 1.0 kHz)		%	≤ 0.1					≤ 0.25				
Leakage Induction (typical)		mH	14.0					14.0				
Dielectric Strength (P/S)		kVDC	6.5					6.5				
Temperature Range	Operation	°C	-10 to +60					-10 to +60				
	Storage	°C	-20 to +70					-20 to +70				
Specifications Met		BS 6204: Construction and flammability (UL 94 VO) BS 6301: Isolation BS 6305: Return loss (1982/paragraph 4.3.2.2/b)							CCITT: Rec. T/CD 1-1 (Sept. 1982)			

REV. 04/05