

Features

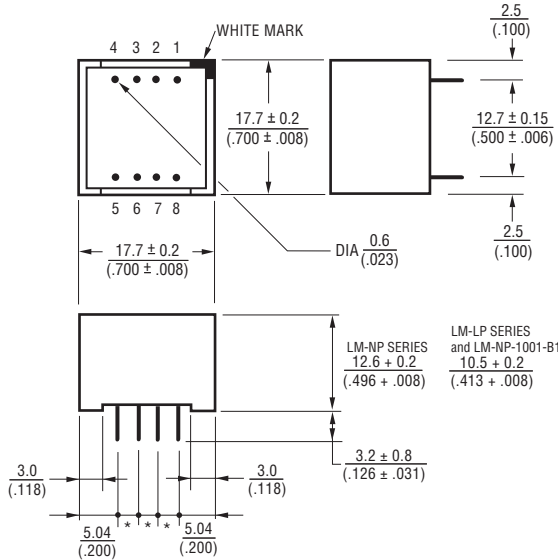
- Fully encapsulated
- Low profile
- High dielectric strength
- Ten models available
- Ex stock
- Competitively priced
- RoHS compliant*

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)

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

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.

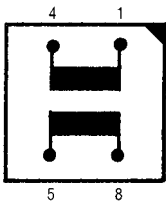
The LM-NP-1000 Series are EN 41003 approved.

How To Order

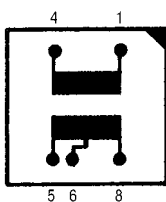
Model LM-xP-100x0xx L
 Termination _____
 L = Tin only (RoHS Compliant)

Pin Assignment and Winding Configurations (Bottom View)

LM-NP-1001-B1L
LM-LP-1001L

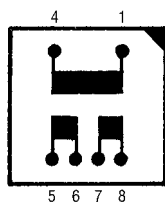


LM-NP-1002L
LM-LP-1002L



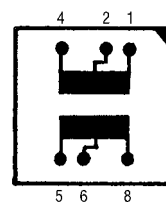
one-winding
center-tapped*

LM-NP-1003L
LM-LP-1003L



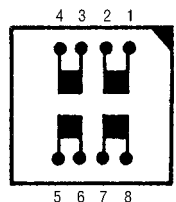
one winding
split*

LM-NP-1004L
LM-LP-1004L



both windings
center-tapped

LM-NP-1005L
LM-LP-1005L



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.
 Specifications are subject to change without notice.
 Customers should verify actual device performance in their specific applications

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

BOURNS®

Part Numbers And Specifications

| Parameters | | Unit | LM-NP 1001-B1L | LM-NP 1002L | LM-NP 1003L | LM-NP 1004L | LM-NP 1005L | LM-LP 1001L | LM-LP 1002L | LM-LP 1003L | LM-LP 1004L | LM-LP 1005L |
|--|--------------------------------|------|---|------------------------------------|-------------------------|--------------------------------------|---------------------------|-----------------------------------|------------------------------------|-------------------------|--------------------------------------|---------------------------|
| 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 94V0) BS 6301: Isolation BS 6305: Return loss (1982/paragraph 4.3.2.2/b) | | | | | CCITT: Rec. T/CD 1-1 (Sept. 1982) | | | | |

REV. 05/11

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