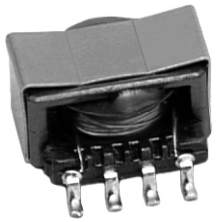
Surface Mount Transformers/Inductors, Gapped and Ungapped, Custom Configurations Available



FEATURES

- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

HALOGEN FREE

ELECTRICAL SPECIFICATIONS

Inductance Range: 10 µH to 47 000 µH, measured at 0.10 V_{RMS} at 10 kHz without DC current, using an HP 4263A or HP 4284A impedance analyzer

DC Resistance Range: 0.03 Ω to 19.1 Ω, measured at +25 °C ± 5 °C

Rated Current Range: 2.00 A to 0.09 A

Dielectric Withstanding Voltage: 500 V_{RMS}, 60 Hz, 5 s

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (µH)	IND. TOL.	SCHEMATIC LETTER	DCR MAX. (Ω)	MAX. RATED DC CURRENT (A) (1)	SATURATING CURRENT (A) (2)	
LPE4841ER101NU	100	± 30 %	A	0.17	0.88	N/A	UNGAPPED MODELS (A)
LPE4841ER151NU	150	± 30 %	A	0.21	0.79	N/A	
LPE4841ER221NU	220	± 30 %	A	0.25	0.721	N/A	
LPE4841ER331NU	330	± 30 %	A	0.30	0.65	N/A	
LPE4841ER471NU	470	± 30 %	A	0.36	0.60	N/A	
LPE4841ER681NU	680	± 30 %	A	0.44	0.54	N/A	
LPE4841ER102NU	1000	± 30 %	A	0.53	0.49	N/A	
LPE4841ER152NU	1500	± 30 %	A	0.65	0.45	N/A	
LPE4841ER222NU	2200	± 30 %	A	0.79	0.40	N/A	
LPE4841ER332NU	3300	± 30 %	A	1.55	0.29	N/A	
LPE4841ER472NU	4700	± 30 %	A	1.85	0.26	N/A	
LPE4841ER682NU	6800	± 30 %	A	4.36	0.17	N/A	
LPE4841ER103NU	10 000	± 30 %	A	5.29	0.16	N/A	
LPE4841ER153NU	15 000	± 30 %	A	6.48	0.14	N/A	
LPE4841ER223NU	22 000	± 30 %	A	13.1	0.10	N/A	
LPE4841ER333NU	33 000	± 30 %	A	16.0	0.09	N/A	
LPE4841ER473NU	47 000	± 30 %	A	19.1	0.08	N/A	
LPE4841ER100MG	10	± 20 %	B	0.03	2.03	2.320	GAPPED MODELS (B)
LPE4841ER150MG	15	± 20 %	B	0.04	1.84	1.925	
LPE4841ER220MG	22	± 20 %	C	0.07	1.32	1.610	
LPE4841ER330MG	33	± 20 %	C	0.09	1.20	1.330	
LPE4841ER470MG	47	± 20 %	D	0.13	0.98	1.125	
LPE4841ER680MG	68	± 20 %	D	0.21	0.79	0.941	
LPE4841ER101MG	100	± 20 %	E	0.35	0.58	0.781	
LPE4841ER151MG	150	± 20 %	E	0.48	0.52	0.641	
LPE4841ER221MG	220	± 20 %	E	0.73	0.42	0.532	
LPE4841ER331MG	330	± 20 %	E	1.14	0.34	0.436	
LPE4841ER471MG	470	± 20 %	E	1.36	0.31	0.366	
LPE4841ER681MG	680	± 20 %	E	2.07	0.25	0.305	
LPE4841ER102MG	1000	± 20 %	E	3.15	0.20	0.252	
LPE4841ER152MG	1500	± 20 %	E	4.76	0.16	0.206	
LPE4841ER222MG	2200	± 20 %	E	7.29	0.13	0.170	
LPE4841ER332MG	3300	± 20 %	E	11.7	0.11	0.139	
LPE4841ER472MG	4700	± 20 %	E	17.7	0.09	0.117	

Notes

(1) DC current that will create a maximum temperature rise of 30 °C when applied at +25 °C ambient

(2) DC current that will typically reduce the initial inductance by 20 %

- **UNGAPPED MODELS:** Highest possible inductance with the lowest DCR and highest Q capability. Beneficial in filter, impedance matching and line coupling devices
  GAPPED MODELS: Capable of handling large amounts of DC current, tighter inductance tolerance with better temperature stability than ungapped models. Beneficial in DC/DC converters or other circuits carrying DC currents or requiring inductance stability over a temperature range

DESCRIPTION

LPE	4841	1000 µH	± 30 %	A	ER	e2
MODEL	SIZE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	CORE	PACKAGE CODE	JEDEC LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

L	P	E	4	8	4	1	E	R	1	0	2	N	U
PRODUCT FAMILY			SIZE				PACKAGE CODE		INDUCTANCE VALUE			TOL.	CORE

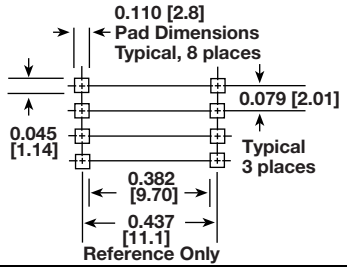
Note

- Series is also available with SnPb terminations by using package code RY for tape and reel (in place of ER) or SM for bulk (in place of EB)

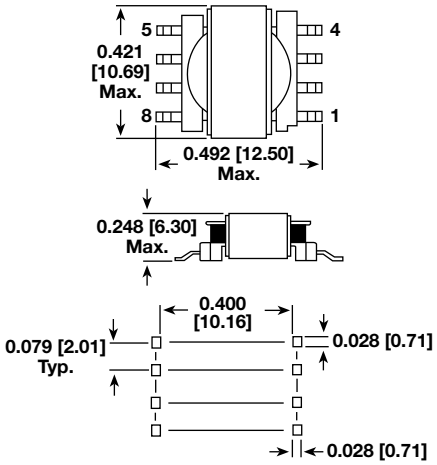
For technical questions, contact: magnetics@vishay.com

DIMENSIONS in inches [millimeters]

Pad Layout



Dimensional Outline

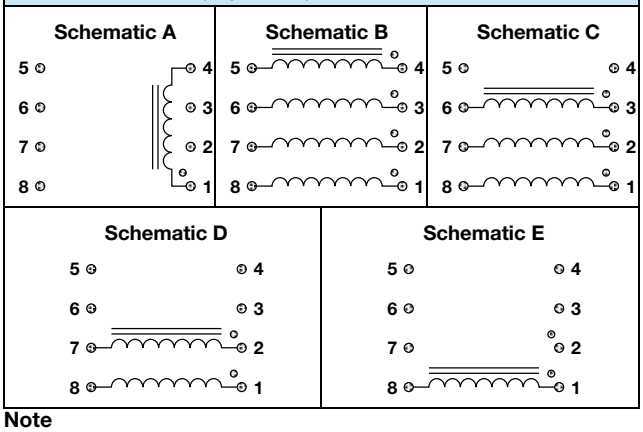


Foot Print Diagram

Notes

- Pad layout guidelines per MIL-STD-275E (printed wiring for electronic equipment)
- Tolerances: xx ± 0.01" [± 0.25 mm]; xxx ± 0.005" [± 0.12 mm]
- The underside of these components contains metal and thus should not come in contact with active circuit traces

SCHEMATIC (top view)



Note

- Schematic A is for ungapped LPE series

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS
Thermal cycling	Withstands -55 °C to +125 °C
Operating temperature	-55 °C to +125 °C (1)
High humidity	85 %
Soldering heat	Tested to +230 °C
Mechanical shock	Per MIL-STD-202, method 213 (100G)
Vibration	Per MIL-STD-202, method 204 (20G)
Solderability	Per industry standards

Note

(1) Must be checked in end use application

PART MARKING

- Vishay Dale
- Date code
- Marking code (suffix of model #)
- Pin 1 indicator

PACKAGING

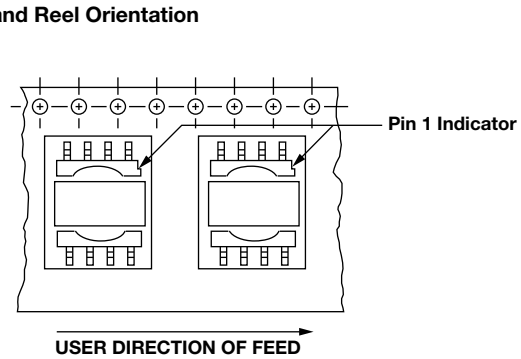
TAPE SPECIFICATIONS:
Carrier tape type: conductive
Cover tape type: anti-static
Cover tape adhesion to carrier: 40 g ± 30 g

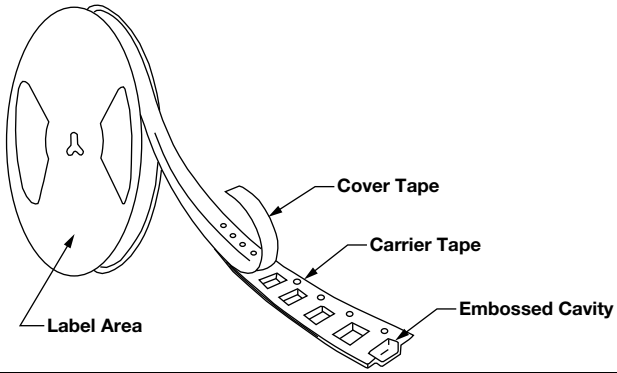
REEL SPECIFICATIONS:
Diameter (flange): 13" [330.2 mm]
Maximum width (over flanges): 1.197" [30.4 mm]

STANDARDS: All embossed carrier tape packaging will be accomplished in compliance with latest revision of EIA-481 "Taping of Surface Mount Components for Automatic Placement"

MODEL	TAPE WIDTH	COMPONENT PITCH	UNITS PER 13" REEL
LPE-4841	24 mm	16 mm	600

Tape and Reel Orientation





Note

- Top view shown with cover tape removed

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.