

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



ELECTRICAL SPECIFICATIONS

(Multiple winds are connected in parallel)

Inductance Range: 10 μ H to 68 000 μ H, measured at 0.10 V RMS at 10 kHz without DC current, using an HP 4263A or HP 4284A impedance analyzer

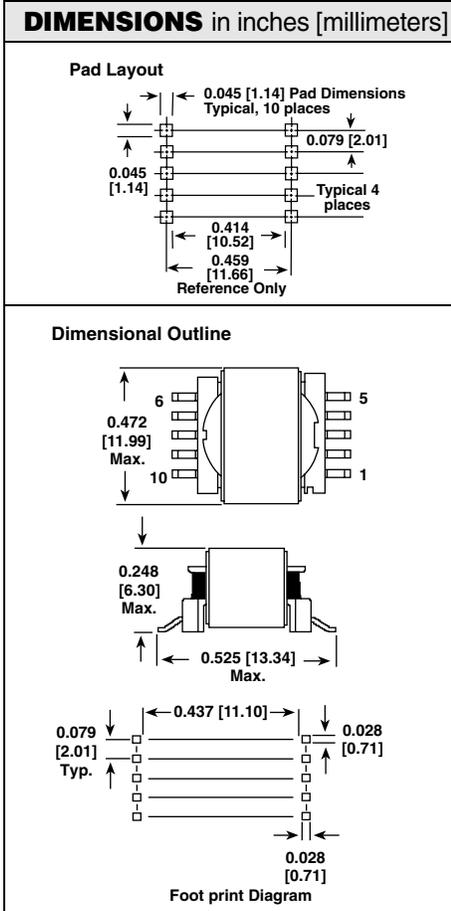
DC Resistance Range: 0.03 Ω to 24.1 Ω , measured at + 25 °C \pm 5 °C

Rated Current Range: 2.29 amps to 0.07 amps

Dielectric Withstanding Voltage: 500 V RMS, 60 Hz, 5 seconds



RoHS COMPLIANT



NOTE: Pad layout guidelines per MIL-STD-275E (printed wiring for electronic equipment).

Tolerances: xx \pm 0.01" [\pm 0.25 mm]; xxx \pm 0.005" [\pm 0.12 mm]

The underside of these components contains metal and thus should not come in contact with active circuit traces.

STANDARD ELECTRICAL SPECIFICATIONS						
MODEL	IND. (μ H)	IND. TOL.	SCHEMATIC LETTER	DCR MAX. (Ohms)	MAX. RATED* DC CURRENT (Amps)	SATURATING CURRENT** (Amps)
Ungapped Models (A)						
LPE5047ER151NU	150	\pm 30 %	A	0.20	0.79	N/A
LPE5047ER221NU	220	\pm 30 %	A	0.24	0.72	N/A
LPE5047ER331NU	330	\pm 30 %	A	0.29	0.65	N/A
LPE5047ER471NU	470	\pm 30 %	A	0.35	0.59	N/A
LPE5047ER681NU	680	\pm 30 %	A	0.42	0.54	N/A
LPE5047ER102NU	1000	\pm 30 %	A	0.51	0.49	N/A
LPE5047ER152NU	1500	\pm 30 %	A	0.63	0.44	N/A
LPE5047ER222NU	2200	\pm 30 %	A	0.76	0.40	N/A
LPE5047ER332NU	3300	\pm 30 %	A	1.00	0.35	N/A
LPE5047ER472NU	4700	\pm 30 %	A	2.24	0.24	N/A
LPE5047ER682NU	6800	\pm 30 %	A	2.70	0.21	N/A
LPE5047ER103NU	10 000	\pm 30 %	A	3.27	0.19	N/A
LPE5047ER153NU	15 000	\pm 30 %	A	6.26	0.14	N/A
LPE5047ER223NU	22 000	\pm 30 %	A	7.58	0.13	N/A
LPE5047ER333NU	33 000	\pm 30 %	A	9.50	0.11	N/A
LPE5047ER473NU	47 000	\pm 30 %	A	18.5	0.08	N/A
LPE5047ER683NU	68 000	\pm 30 %	A	24.1	0.07	N/A
Gapped Models (B)						
LPE5047ER100MG	10	\pm 20 %	B	0.03	2.29	2.690
LPE5047ER150MG	15	\pm 20 %	B	0.04	2.07	2.230
LPE5047ER220MG	22	\pm 20 %	B	0.05	1.68	1.860
LPE5047ER330MG	33	\pm 20 %	C	0.09	1.35	1.540
LPE5047ER470MG	47	\pm 20 %	D	0.13	1.11	1.300
LPE5047ER680MG	68	\pm 20 %	D	0.15	1.01	1.085
LPE5047ER101MG	100	\pm 20 %	D	0.24	0.81	0.900
LPE5047ER151MG	150	\pm 20 %	D	0.37	0.65	0.740
LPE5047ER221MG	220	\pm 20 %	E	0.55	0.53	0.610
LPE5047ER331MG	330	\pm 20 %	E	0.85	0.43	0.500
LPE5047ER471MG	470	\pm 20 %	E	1.29	0.35	0.420
LPE5047ER681MG	680	\pm 20 %	E	1.96	0.28	0.350
LPE5047ER102MG	1000	\pm 20 %	E	2.38	0.26	0.290
LPE5047ER152MG	1500	\pm 20 %	E	3.66	0.21	0.240
LPE5047ER222MG	2200	\pm 20 %	E	5.47	0.17	0.195
LPE5047ER332MG	3300	\pm 20 %	E	8.48	0.14	0.160
LPE5047ER472MG	4700	\pm 20 %	E	13.2	0.11	0.135

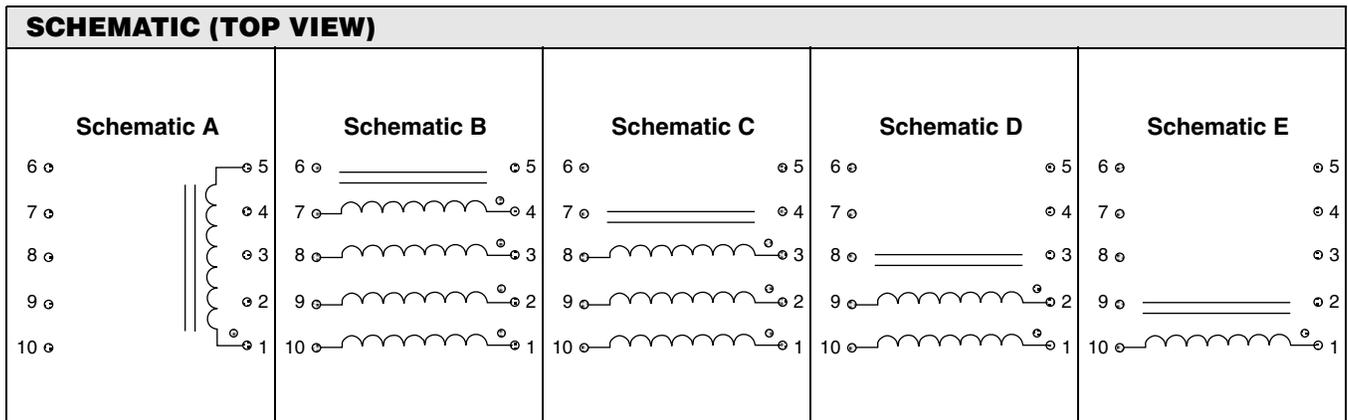
* DC current that will create a maximum temperature rise of 30 °C when applied at + 25 °C ambient. ** DC current that will typically reduce the initial inductance by 20 %

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 to DC converters or other circuits carrying DC currents or requiring inductance stability over a temperature range.

DESCRIPTION													
LPE	5047	1000 μ H	\pm 30 %	A	ER	e2							
MODEL	SIZE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	CORE	PACKAGE CODE	JEDEC LEAD (Pb)-FREE STANDARD							
GLOBAL PART NUMBER													
L	P	E	5	0	4	7	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).



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*
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

* Must be checked in end use application

PART MARKING
<ul style="list-style-type: none"> - 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 ± 30 grams		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".									
REEL SPECIFICATIONS: Diameter (flange): 13" [330.2 mm] Maximum Width (over flanges): 1.197" [30.4 mm]		<table border="1"> <thead> <tr> <th>MODEL</th> <th>TAPE WIDTH</th> <th>COMPONENT PITCH</th> <th>UNITS PER 13 INCH REEL</th> </tr> </thead> <tbody> <tr> <td>LPE-5047</td> <td>24 mm</td> <td>16 mm</td> <td>600</td> </tr> </tbody> </table>	MODEL	TAPE WIDTH	COMPONENT PITCH	UNITS PER 13 INCH REEL	LPE-5047	24 mm	16 mm	600	
MODEL	TAPE WIDTH	COMPONENT PITCH	UNITS PER 13 INCH REEL								
LPE-5047	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.