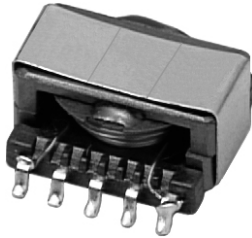


## Surface Mount Transformers/Inductors, Gapped and Ungapped, Custom Configurations Available


**FEATURES**

- Compliant to RoHS directive 2002/95/EC


**ELECTRICAL SPECIFICATIONS**

(multiple winds are connected in parallel)

**Inductance Range:** 10  $\mu\text{H}$  to 68 000  $\mu\text{H}$ , measured at 0.10  $V_{\text{RMS}}$  at 10 kHz without DC current, using an HP 4263A or HP 4284A impedance analyzer

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

**Rated Current Range:** 2.29 A to 0.07 A

**Dielectric Withstanding Voltage:** 500  $V_{\text{RMS}}$ , 60 Hz, 5 s

**STANDARD ELECTRICAL SPECIFICATIONS**

MODEL	IND. ( $\mu\text{H}$ )	IND. TOL.	SCHEMATIC LETTER	DCR MAX. ( $\Omega$ )	MAX. RATED DC CURRENT (A) <sup>(1)</sup>	SATURATING CURRENT (A) <sup>(2)</sup>	
LPE5047ER151NU	150	$\pm$ 30 %	A	0.20	0.79	N/A	UNGAPPED MODELS (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	UNGAPPED MODELS (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	
LPE5047ER100MG	10	$\pm$ 20 %	B	0.03	2.29	2.690	GAPPED MODELS (B)
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	GAPPED MODELS (B)
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	

**Notes**
<sup>(1)</sup> DC current that will create a maximum temperature rise of 30 °C when applied at + 25 °C ambient.

<sup>(2)</sup> 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**

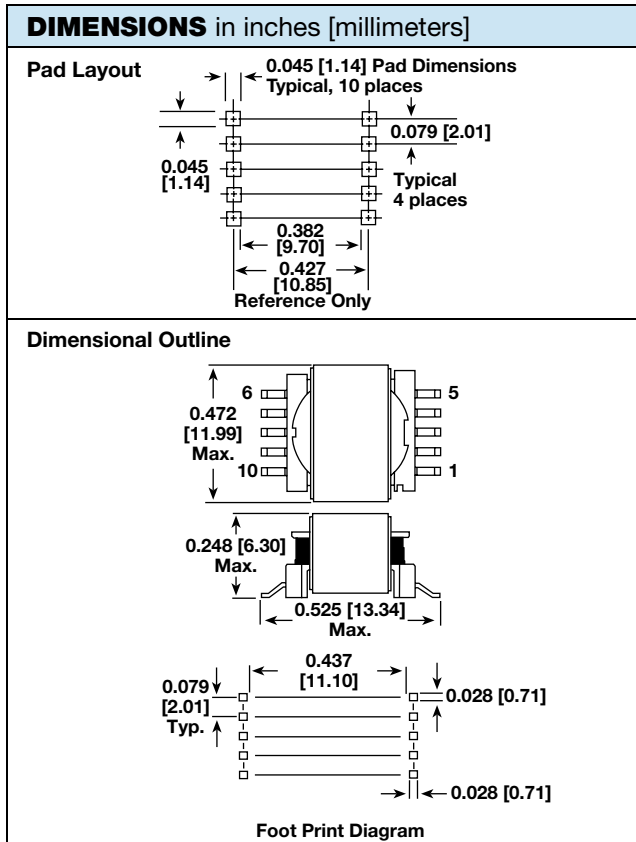
LPE	5047	1000 $\mu\text{H}$	$\pm$ 30 %	A	ER	e2
MODEL	SIZE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	CORE	PACKAGE CODE	JEDEC LEAD (Pb)-FREE STANDARD

**GLOBAL PART NUMBER**

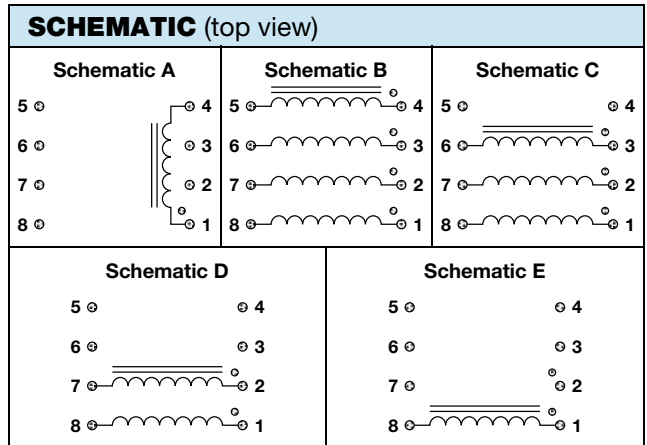
L	P	E	5	0	4	7	E	R	1	0	2	N	U
PRODUCT FAMILY			SIZE			PACKAGE CODE		INDUCTANCE VALUE			TOL.	CORE	

**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).



- 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.



- 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 <sup>(1)</sup>
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**
- <sup>(1)</sup> Must be checked in end use application

**PART MARKING**

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

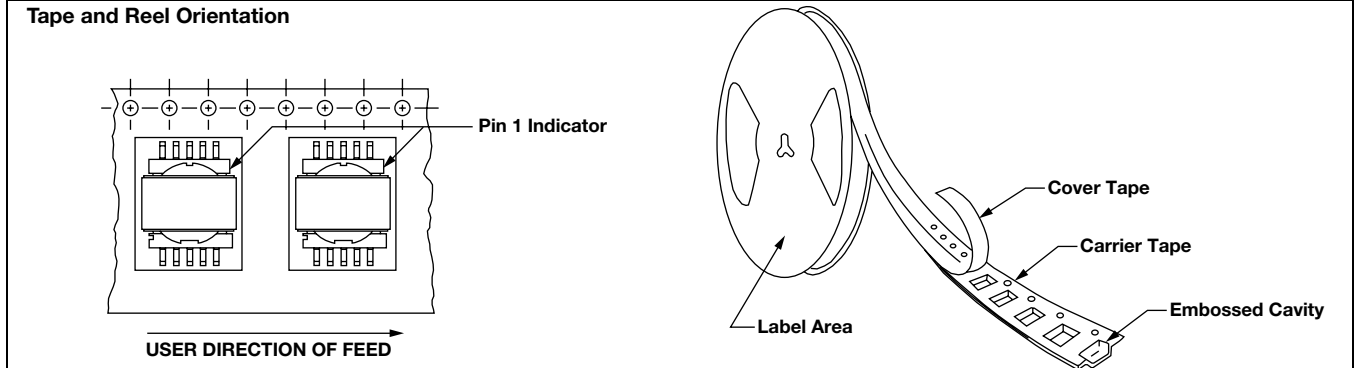
**PACKAGING**

**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-5047	24 mm	16 mm	600



- Note**
- Top view shown with cover tape removed



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