



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



### **FEATURES**

• Compliant to RoHS directive 2002/95/EC

### **ELECTRICAL SPECIFICATIONS**

Inductance Range: 10 µH to 47 000 µH, measured at 0.10 V<sub>RMS</sub> at 10 kHz without DC current, using an HP 4263A or HP 4284A impedance analyzer

**DC Resistance Range:** 0.03  $\Omega$  to 19.1  $\Omega$ , measured at + 25 °C ± 5 °C

Rated Current Range: 2.00 A to 0.09 A

Dielectric Withstanding Voltage: 500 V<sub>RMS</sub>, 60 Hz, 5 s

STANDARD ELECTRICAL SPECIFICATIONS						
	IND.	IND.	SCHEMATIC	DCR MAX.	MAX. RATED DC CURRENT	SATURATING CURRENT
MODEL	(µH)	TOL.	LETTER	(Ω)	(A) <sup>(1)</sup>	(A) <sup>(2)</sup>
LPE4841ER101NU	100	± 30 %	Α	0.17	0.88	N/A
LPE4841ER151NU	150	± 30 %	Α	0.21	0.79	N/A
LPE4841ER221NU	220	± 30 %	Α	0.25	0.721	N/A
LPE4841ER331NU	330	± 30 %	Α	0.30	0.65	N/A
LPE4841ER471NU	470	± 30 %	Α	0.36	0.60	N/A v
LPE4841ER681NU	680	± 30 %	Α	0.44	0.54	N/A N/A N/A N/A
LPE4841ER102NU	1000	± 30 %	Α	0.53	0.49	N/A
LPE4841ER152NU	1500	± 30 %	Α	0.65	0.45	N/A S
LPE4841ER222NU	2200	± 30 %	Α	0.79	0.40	
LPE4841ER332NU	3300	± 30 %	Α	1.55	0.29	N/A
LPE4841ER472NU	4700	± 30 %	Α	1.85	0.26	N/A
LPE4841ER682NU	6800	± 30 %	Α	4.36	0.17	N/A
LPE4841ER103NU	10 000	± 30 %	Α	5.29	0.16	N/A N/A N/A N/A N/A N/A
LPE4841ER153NU	15 000	± 30 %	Α	6.48	0.14	N/A =
LPE4841ER223NU	22 000	± 30 %	Α	13.1	0.10	N/A
LPE4841ER333NU	33 000	± 30 %	Α	16.0	0.09	N/A
LPE4841ER473NU	47 000	± 30 %	Α	19.1	0.08	N/A
LPE4841ER100MG	10	± 20 %	В	0.03	2.03	2.320
LPE4841ER150MG	15	± 20 %	B C	0.04	1.84	1.925
LPE4841ER220MG	22	± 20 %	С	0.07	1.32	1.610
LPE4841ER330MG	33	± 20 %	С	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 E E	0.73	0.42	0.532
LPE4841ER331MG	330	± 20 %	E	1.14	0.34	
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	0.436 0.366 0.305 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 E E E	11.7	0.11	0.139
LPE4841ER472MG	4700	± 20 %	E	17.7	0.09	0.117

### Notes

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

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

<sup>(1)</sup> 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 %.

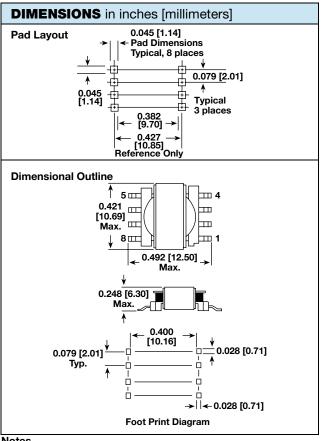
• UNGAPPED MODELS: Highest possible inductance with the lowest DCR and highest Q capability. Beneficial in filter, impedance matching and

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).

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### Notes

- 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.

SCHEMATIC (top view)						
Schematic A	Schen	natic B	Schematic C			
5 0 0 4	5 @	<u>~~</u> ° 4	5 0 0 4			
6 0	6 9	~~~°₀3	6 0			
7 0	7 @	~~~°₀ 2	7 0			
80 " 01	8 @	~~~° <sub>0</sub> 1	8 @			
Schematic	D	Schematic E				
5 ⊚	<b>9</b> 4	5 ⊕	o 4			
6 ⊕	© <b>3</b>	6 0	⊕ 3			
7 9—777777	<b>2</b>	7 0	° 2			
8 ⊕	<b>⊸</b> 1	8 ⊕	° 1			

• 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

(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

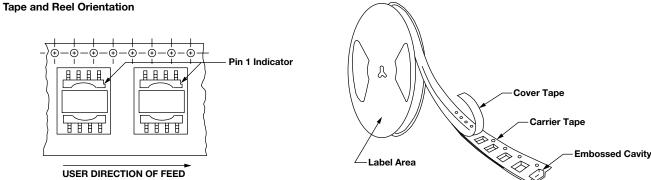
Cover Tape Adhesion to Carrier: 40 g ± 30 g

### **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 Surface Mount Components "Taping of Placement'

MODEL	WIDTH	PITCH	REEL 13"	
LPE-4841	24 mm	16 mm	600	



Top view shown with cover tape removed



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