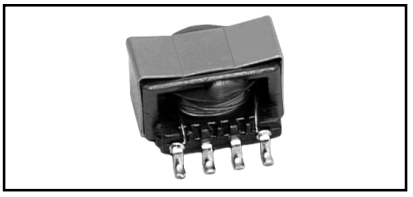
Model LPE-4841

Vishay Dale

Transformers/Inductors

Surface Mount, Gapped and Ungapped
Custom Configurations Available

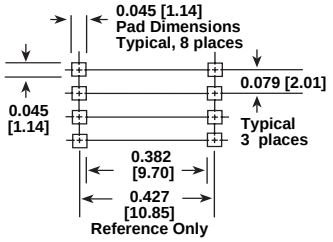


ELECTRICAL SPECIFICATIONS

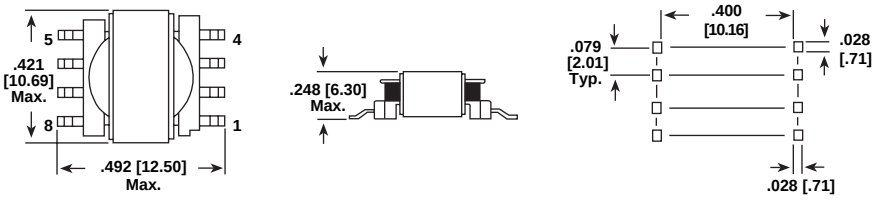
Inductance Range: 10µH to 47000µH, measured at 0.10V RMS @ 10kHz without DC current, using an HP 4263A or HP 4284A impedance analyzer.
DC Resistance Range: 0.03 ohm to 19.1 ohm, measured at + 25°C ± 5°C.
Operating Temperature: - 20°C to + 80°C.
Rated Current Range: 2.00 amps to .09 amps.
Dielectric Withstanding Voltage: 500V RMS, 60Hz, 5 seconds.

DIMENSIONAL CONFIGURATIONS [Numbers in brackets indicate millimeters]

Pad Layout



Dimensional Outline



NOTE: Pad layout guidelines per MIL-STD-275E (printed wiring for electronic equipment). Tolerances: xx ± .01" [± 0.25mm]. xxx ± .005" [± 0.12mm].

STANDARD ELECTRICAL SPECIFICATIONS

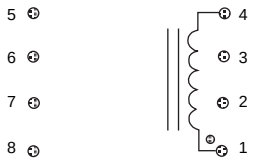
MODEL	INDUCTANCE (µH)	INDUCTANCE TOLERANCE	SCHEMATIC LETTER	DCR MAX. (Ohms)	MAX. RATED* DC CURRENT (Amps)	SATURATING** CURRENT (Amps)
Ungapped Models						
LPE-4841-101NA	10	± 30%	A	0.17	.88	N/A
LPE-4841-151NA	15	± 30%	A	0.21	.79	N/A
LPE-4841-221NA	22	± 30%	A	0.25	.721	N/A
LPE-4841-331NA	33	± 30%	A	0.30	.65	N/A
LPE-4841-471NA	47	± 30%	A	0.36	.60	N/A
LPE-4841-681NA	68	± 30%	A	0.44	.54	N/A
LPE-4841-102NA	100	± 30%	A	0.53	.49	N/A
LPE-4841-152NA	150	± 30%	A	0.65	.45	N/A
LPE-4841-222NA	220	± 30%	A	0.79	.40	N/A
LPE-4841-332NA	330	± 30%	A	1.55	.29	N/A
LPE-4841-472NA	470	± 30%	A	1.85	.26	N/A
LPE-4841-682NA	680	± 30%	A	4.36	.17	N/A
LPE-4841-103NA	1000	± 30%	A	5.29	.16	N/A
LPE-4841-153NA	1500	± 30%	A	6.48	.14	N/A
LPE-4841-223NA	2200	± 30%	A	13.1	.10	N/A
LPE-4841-333NA	3300	± 30%	A	16.0	.09	N/A
LPE-4841-473NA	3900	± 30%	A	19.1	.08	N/A
Gapped Models						
LPE-4841-100MB	10	± 20%	B	0.03	2.03	2.320
LPE-4841-150MB	15	± 20%	B	0.04	1.84	1.925
LPE-4841-220MB	22	± 20%	C	0.07	1.32	1.610
LPE-4841-330MB	33	± 20%	C	0.09	1.20	1.330
LPE-4841-470MB	47	± 20%	D	0.13	.98	1.125
LPE-4841-680MB	68	± 20%	D	0.21	.79	.941
LPE-4841-101MB	100	± 20%	E	0.35	.58	.781
LPE-4841-151MB	150	± 20%	E	0.48	.52	.641
LPE-4841-221MB	220	± 20%	E	0.73	.42	.532
LPE-4841-331MB	330	± 20%	E	1.14	.34	.436
LPE-4841-471MB	470	± 20%	E	1.36	.31	.366
LPE-4841-681MB	680	± 20%	E	2.07	.25	.305
LPE-4841-102MB	1000	± 20%	E	3.15	.20	.252
LPE-4841-152MB	1500	±20%	E	4.76	.16	.206
LPE-4841-222MB	2200	±20%	E	7.29	.13	.170
LPE-4841-332MB	3300	±20%	E	11.7	.11	.139
LPE-4841-472MB	4700	±20%	E	17.7	.09	.117

*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%.

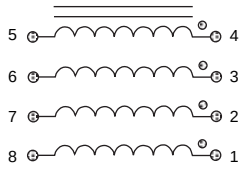
UNGAPPED MODELS: Highest possible inductance with the lowest DCR and highest Q capability. Beneficial in filter, impedance matching and line coupling devices.
GAPPED MODELS: Capable of handling large amounts of DC current, tighter inductance tolerance with better temperature stability than ungapped models.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

SCHEMATICS (Top View)

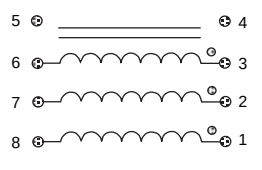
Schematic A



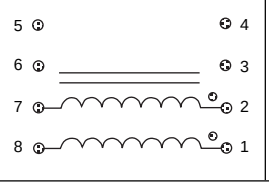
Schematic B



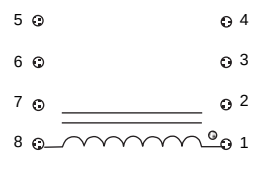
Schematic C



Schematic D



Schematic E



NOTE: Schematic A is for Ungapped LPE Series.

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS
Thermal Cycling	Withstands - 55°C to + 125°C
High Temperature	+ 85°C
High Humidity	85%
Soldering Heat	Tested to + 230°C
Mechanical Shock	Per MIL-STD-202, Method 214 (100g)
Vibration	Per MIL-STD-202, Method 204 (20g)
Solderability	Per industry standards

PART MARKING

— Vishay Dale

— Date code

— Marking code (Suffix of model #)

— Pin 1 indicator

HOW TO ORDER - LPE-4841-102NA

LPE	4841	1000µH	±30%	A
MODEL	SIZE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	CORE

PACKAGING

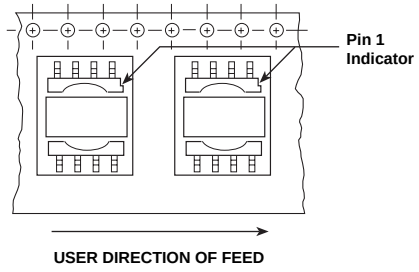
TAPE SPECIFICATIONS:
Carrier Tape Type: Conductive.
Cover Tape Type: Anti-static.
Cover Tape Adhesion to Carrier: 40 ± 30 grams.

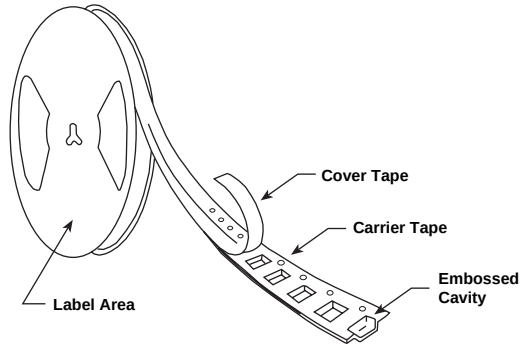
REEL SPECIFICATIONS:
Diameter (flange): 13" [330.2mm].
Maximum Width (over flanges): 1.197" [30.4mm].

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 INCH REEL
LPE-4841	24mm	16mm	600

Tape and Reel Orientation





NOTE: Top view shown with cover tape removed.

Surface Mount Transformers and Inductors

Custom Designs and Configurations Available
(PCB Mount available for many Geometries)

FEATURES

- Totally integrated manufacturing.
- Pick and place compatible.
- Statistical process controlled.
- Tape packaging per EIA-481.
- Low cost.
- Qualification data available.
- Short lead times.
- Wide inductance ranges available.
- High DC current handling capabilities.
- Low DCR vs inductance.
- Hot tin dipped terminations.
- Compatible with reflow solder processes.
- Industry standard footprints.
- UL Class B materials (+ 130°C).
- Ferrite cores in a power material.
- Resistant to solvents.
- Custom designs available (transformers or inductors). Tighter tolerances may also be available.

APPLICATIONS

Circuit: Signal conditioning, filtering, DC/DC converters, audio circuits and line matching circuits.

Equipment: Notebook computers, pagers, global positioning equipment, communications and audio.

PARTIAL LISTING OF AVAILABLE GEOMETRIES

OUTPUT POWER*	CORE GEOMETRY	VISHAY DALE PART NUMBER	OUTSIDE DIMENSIONS (inches)		
			LENGTH	WIDTH	HEIGHT
2.5	EE5	3325**	0.323	0.256	0.205
6.2	ER9.5	4841**	0.492	0.421	0.248
9.4	ER11/5	5047**	0.525	0.472	0.248
11.2	EFD10	4658	0.737	0.47	0.212
12.5	EP7	5036	0.530	0.4	0.34
20.5	EFD12	6454	0.796	0.549	0.256
24.1	EPC13	8070	0.843	0.6	0.330
27.7	EEM12.7	6855**	0.69	0.555	0.22
28.7	EP10	5740	0.585	0.55	0.43
35.6	ER14.5	6562**	0.695	0.606	0.335
38.4	EFD15	7466	0.894	0.663	0.295
47.1	EP13	6750	0.685	0.625	0.5
55.5	EPC17	9080	0.941	0.76	0.394
70	EPC19	9887	1.02	0.866	0.382
94	EFD20	9385	1.102	0.9	0.4
175	EPC25B	9999	1.142	1.06	0.4
204	EFD25	9890	1.24	1.1	0.5
297	EFD30	9990	1.65	1.3	0.6

*2300 Perm, 100kHz, 20°C, 50°C temperature rise.
**Standard products available (see following pages for details).