

## 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  $\mu$ H to 150 000  $\mu$ H, 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:** 0.02  $\Omega$  to 46.2  $\Omega$ , measured at + 25 °C  $\pm$  5 °C

**Rated Current Range:** 3.20 A to 0.17 A

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

| STANDARD ELECTRICAL SPECIFICATIONS |                 |            |                  |                       |  |                                       |
|------------------------------------|-----------------|------------|------------------|-----------------------|--|---------------------------------------|
| MODEL                              | IND. ( $\mu$ H) | IND. TOL.  | SCHEMATIC LETTER | DCR MAX. ( $\Omega$ ) | MAX. RATED DC CURRENT (A) <sup>(1)</sup> | SATURATING CURRENT (A) <sup>(2)</sup> |
| LPE6855ER151NU                     | 150             | $\pm$ 30 % | A                | 0.28                  | 0.84                                     | N/A                                   |
| LPE6855ER221NU                     | 220             | $\pm$ 30 % | A                | 0.34                  | 0.76                                     | N/A                                   |
| LPE6855ER331NU                     | 330             | $\pm$ 30 % | A                | 0.41                  | 0.69                                     | N/A                                   |
| LPE6855ER471NU                     | 470             | $\pm$ 30 % | A                | 0.49                  | 0.63                                     | N/A                                   |
| LPE6855ER681NU                     | 680             | $\pm$ 30 % | A                | 0.59                  | 0.57                                     | N/A                                   |
| LPE6855ER102NU                     | 1000            | $\pm$ 30 % | A                | 0.72                  | 0.52                                     | N/A                                   |
| LPE6855ER152NU                     | 1500            | $\pm$ 30 % | A                | 0.88                  | 0.47                                     | N/A                                   |
| LPE6855ER222NU                     | 2200            | $\pm$ 30 % | A                | 1.07                  | 0.43                                     | N/A                                   |
| LPE6855ER332NU                     | 3300            | $\pm$ 30 % | A                | 1.31                  | 0.39                                     | N/A                                   |
| LPE6855ER472NU                     | 4700            | $\pm$ 30 % | A                | 1.56                  | 0.35                                     | N/A                                   |
| LPE6855ER682NU                     | 6800            | $\pm$ 30 % | A                | 1.88                  | 0.32                                     | N/A                                   |
| LPE6855ER103NU                     | 10 000          | $\pm$ 30 % | A                | 7.17                  | 0.16                                     | N/A                                   |
| LPE6855ER153NU                     | 15 000          | $\pm$ 30 % | A                | 8.78                  | 0.15                                     | N/A                                   |
| LPE6855ER223NU                     | 22 000          | $\pm$ 30 % | A                | 10.6                  | 0.14                                     | N/A                                   |
| LPE6855ER333NU                     | 33 000          | $\pm$ 30 % | A                | 13.0                  | 0.12                                     | N/A                                   |
| LPE6855ER473NU                     | 47 000          | $\pm$ 30 % | A                | 15.5                  | 0.11                                     | N/A                                   |
| LPE6855ER683NU                     | 68 000          | $\pm$ 30 % | A                | 18.7                  | 0.10                                     | N/A                                   |
| LPE6855ER104NU                     | 100 000         | $\pm$ 30 % | A                | 37.7                  | 0.07                                     | N/A                                   |
| LPE6855ER154NU                     | 150 000         | $\pm$ 30 % | A                | 46.2                  | 0.06                                     | N/A                                   |
| LPE6855ER100MG                     | 10              | $\pm$ 20 % | B                | 0.02                  | 3.21                                     | 3.375                                 |
| LPE6855ER150MG                     | 15              | $\pm$ 20 % | B                | 0.03                  | 2.90                                     | 2.790                                 |
| LPE6855ER220MG                     | 22              | $\pm$ 20 % | B                | 0.04                  | 2.64                                     | 2.325                                 |
| LPE6855ER330MG                     | 33              | $\pm$ 20 % | B                | 0.05                  | 2.12                                     | 1.910                                 |
| LPE6855ER470MG                     | 47              | $\pm$ 20 % | B                | 0.08                  | 1.73                                     | 1.610                                 |
| LPE6855ER680MG                     | 68              | $\pm$ 20 % | B                | 0.12                  | 1.41                                     | 1.350                                 |
| LPE6855ER101MG                     | 100             | $\pm$ 20 % | B                | 0.15                  | 1.28                                     | 1.120                                 |
| LPE6855ER151MG                     | 150             | $\pm$ 20 % | C                | 0.23                  | 1.02                                     | 0.915                                 |
| LPE6855ER221MG                     | 220             | $\pm$ 20 % | D                | 0.35                  | 0.83                                     | 0.757                                 |
| LPE6855ER331MG                     | 330             | $\pm$ 20 % | D                | 0.55                  | 0.67                                     | 0.620                                 |
| LPE6855ER471MG                     | 470             | $\pm$ 20 % | D                | 0.82                  | 0.54                                     | 0.520                                 |
| LPE6855ER681MG                     | 680             | $\pm$ 20 % | E                | 1.23                  | 0.45                                     | 0.433                                 |
| LPE6855ER102MG                     | 1000            | $\pm$ 20 % | E                | 1.89                  | 0.36                                     | 0.358                                 |
| LPE6855ER152MG                     | 1500            | $\pm$ 20 % | E                | 2.90                  | 0.29                                     | 0.292                                 |
| LPE6855ER222MG                     | 2200            | $\pm$ 20 % | E                | 4.50                  | 0.23                                     | 0.242                                 |
| LPE6855ER332MG                     | 3300            | $\pm$ 20 % | E                | 5.50                  | 0.21                                     | 0.197                                 |
| LPE6855ER472MG                     | 4700            | $\pm$ 20 % | E                | 8.30                  | 0.17                                     | 0.166                                 |

**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.

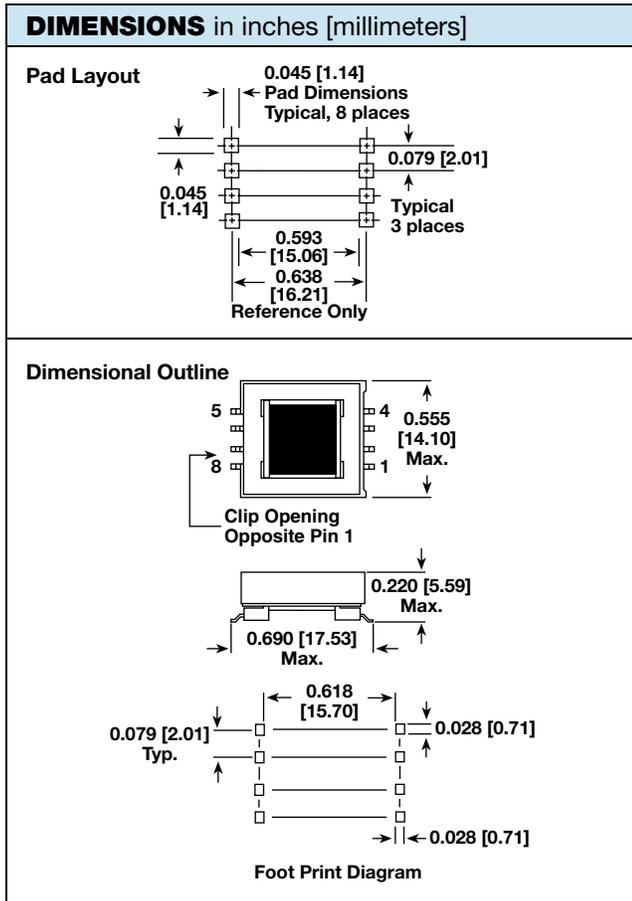
**GAPPED MODELS:** Capable of handling large amounts of DC current, tighter inductance tolerance with better temperature stability than ungapped models. Beneficial in dc-to-dc converters or other circuits carrying DC currents or requiring inductance stability over a temperature range.

| DESCRIPTION |      |                  |                      |      |              |                               |
|-------------|------|------------------|----------------------|------|--------------|-------------------------------|
| LPE         | 6855 | 1000 $\mu$ H     | $\pm$ 30 %           | A    | ER           | e2                            |
| MODEL       | SIZE | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | CORE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

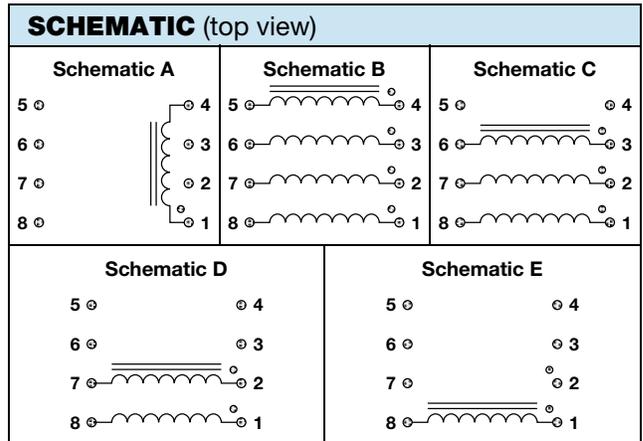
| GLOBAL PART NUMBER |   |   |      |   |   |              |   |                  |   |   |      |      |   |
|--------------------|---|---|------|---|---|--------------|---|------------------|---|---|------|------|---|
| L                  | P | E | 6    | 8 | 5 | 5            | E | R                | 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].



- 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

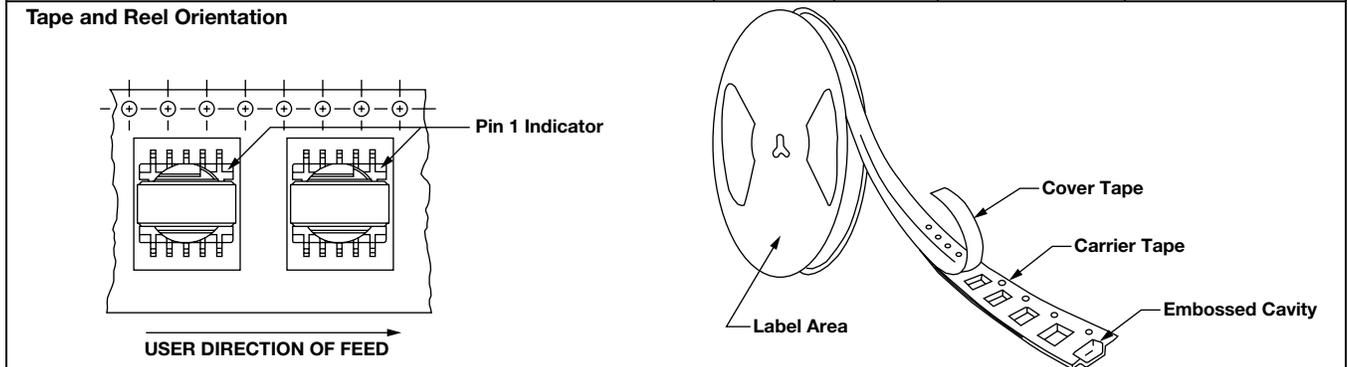
**PACKAGING**

| MODEL    | TAPE WIDTH | COMPONENT PITCH | UNITS PER 13" REEL |
|----------|------------|-----------------|--------------------|
| LPE-6855 | 32 mm      | 20 mm           | 450                |

**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".



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



## Disclaimer

All product specifications and data are subject to change without notice.

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