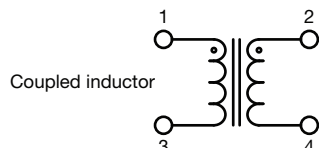


## Coupled Ferrite Power Inductors, Dual-Winding



### FEATURES

- 12.5 mm x 12.5 mm x 8.0 mm SMD package
- Highly coupled windings enable parallel, series and 1:1 transformer applications
- Magnetically shielded ferrite construction
- Inductance range: 0.5  $\mu$ H to 1000  $\mu$ H
- Material categorization:  
for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### APPLICATIONS

- SEPIC converters
- Common mode applications
- LED lighting
- Flyback 1:1 transformer

### LINKS TO ADDITIONAL RESOURCES


[Product Page](#)

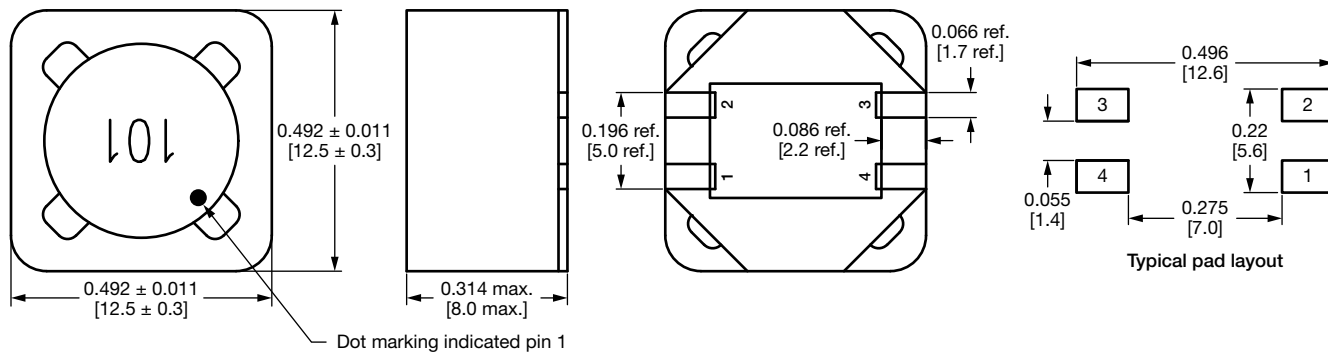
[Calculators](#)

### STANDARD ELECTRICAL SPECIFICATIONS

| PART NUMBER      | $L_0$<br>INDUCTANCE<br>AT 0 A<br>( $\mu$ H) | DCR<br>MAX.<br>( $\Omega$ ) | HEAT RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(2)</sup> | $L_0$<br>INDUCTANCE<br>AT 0 A, REF.<br>( $\mu$ H) | DCR<br>MAX.<br>( $\Omega$ ) | HEAT RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(2)</sup> |
|------------------|---------------------------------------------|-----------------------------|---------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------|-----------------------------|---------------------------------------------------------|--------------------------------------------------------|
|                  | PARALLEL                                    |                             |                                                         |                                                        | SERIES                                            |                             |                                                         |                                                        |
| IFCL5050HZERR50N | 0.5                                         | 0.0058                      | 13.5                                                    | 35.0                                                   | 1.900                                             | 0.0260                      | 6.7                                                     | 18.0                                                   |
| IFCL5050HZER1R0N | 1                                           | 0.0085                      | 10.0                                                    | 24.0                                                   | 3.284                                             | 0.0374                      | 5.0                                                     | 12.0                                                   |
| IFCL5050HZER1R5N | 1.5                                         | 0.0106                      | 8.5                                                     | 19.0                                                   | 5.428                                             | 0.0450                      | 4.3                                                     | 9.2                                                    |
| IFCL5050HZER2R2N | 2.2                                         | 0.0127                      | 8.3                                                     | 16.0                                                   | 8.108                                             | 0.0522                      | 4.2                                                     | 7.6                                                    |
| IFCL5050HZER3R3N | 3.3                                         | 0.0138                      | 8.3                                                     | 14.0                                                   | 11.320                                            | 0.0570                      | 4.1                                                     | 7.2                                                    |
| IFCL5050HZER4R5N | 4.5                                         | 0.0169                      | 6.5                                                     | 11.8                                                   | 17.520                                            | 0.0697                      | 3.3                                                     | 5.9                                                    |
| IFCL5050HZER6R8N | 6.8                                         | 0.0206                      | 5.5                                                     | 9.7                                                    | 29.550                                            | 0.0899                      | 2.8                                                     | 4.7                                                    |
| IFCL5050HZER8R2N | 8.2                                         | 0.0223                      | 5.5                                                     | 8.5                                                    | 35.440                                            | 0.0949                      | 2.7                                                     | 4.2                                                    |
| IFCL5050HZER100M | 10                                          | 0.0238                      | 5.2                                                     | 7.5                                                    | 41.880                                            | 0.1016                      | 2.6                                                     | 3.8                                                    |
| IFCL5050HZER150M | 15                                          | 0.0301                      | 4.3                                                     | 6.0                                                    | 56.360                                            | 0.1258                      | 2.2                                                     | 3.0                                                    |
| IFCL5050HZER220M | 22                                          | 0.0391                      | 4.0                                                     | 5.3                                                    | 91.720                                            | 0.1570                      | 2.0                                                     | 2.6                                                    |
| IFCL5050HZER330M | 33                                          | 0.0600                      | 3.2                                                     | 4.2                                                    | 135.700                                           | 0.2410                      | 1.6                                                     | 2.1                                                    |
| IFCL5050HZER470M | 47                                          | 0.0719                      | 3.0                                                     | 3.5                                                    | 188.200                                           | 0.2880                      | 1.5                                                     | 1.8                                                    |
| IFCL5050HZER680M | 68                                          | 0.1050                      | 2.4                                                     | 3.0                                                    | 265.900                                           | 0.4210                      | 1.2                                                     | 1.5                                                    |
| IFCL5050HZER820M | 82                                          | 0.1430                      | 2.0                                                     | 2.8                                                    | 319.000                                           | 0.5730                      | 1.0                                                     | 1.4                                                    |
| IFCL5050HZER101M | 100                                         | 0.1630                      | 2.1                                                     | 2.5                                                    | 397.200                                           | 0.6530                      | 0.9                                                     | 1.3                                                    |
| IFCL5050HZER151M | 150                                         | 0.2470                      | 1.6                                                     | 2.1                                                    | 579.600                                           | 0.9890                      | 0.8                                                     | 1.1                                                    |
| IFCL5050HZER221M | 220                                         | 0.3760                      | 1.3                                                     | 1.6                                                    | 886.000                                           | 1.5000                      | 0.6                                                     | 0.8                                                    |
| IFCL5050HZER331M | 330                                         | 0.5740                      | 1.0                                                     | 1.4                                                    | 1294.000                                          | 2.3000                      | 0.5                                                     | 0.7                                                    |
| IFCL5050HZER471M | 470                                         | 0.8610                      | 0.9                                                     | 1.2                                                    | 1868.000                                          | 3.4400                      | 0.4                                                     | 0.6                                                    |
| IFCL5050HZER681M | 680                                         | 1.0800                      | 0.8                                                     | 0.9                                                    | 2707.000                                          | 4.3200                      | 0.4                                                     | 0.4                                                    |
| IFCL5050HZER821M | 820                                         | 1.4700                      | 0.7                                                     | 0.8                                                    | 3272.000                                          | 5.8800                      | 0.3                                                     | 0.4                                                    |
| IFCL5050HZER102M | 1000                                        | 1.6600                      | 0.6                                                     | 0.7                                                    | 4637.333                                          | 6.6400                      | 0.3                                                     | 0.3                                                    |

### Notes

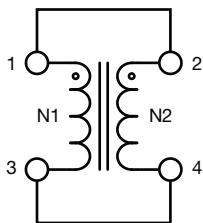
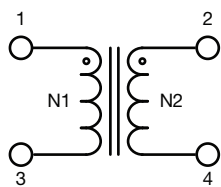
- All test data is referenced to 25 °C ambient
- Test condition: 100 kHz, 0.25 V
- Operating temperature range -40 °C to +125 °C (includes temperature rise due to self-heating)
- Storage temperature: -40 °C to +125 °C
- Resistance to solder heat: 260 °C peak for 10 s max.
- Winding to winding isolation voltage (1 to 2): 200 V<sub>AC</sub>, 3 mA, 1 s
- (1) DC current (A) that will cause an approximate  $\Delta T$  of 40 °C
- (2) DC current (A) that will cause  $L_0$  to drop approximately 30 %

**DIMENSIONS** in inches [millimeters]

**DESCRIPTION**

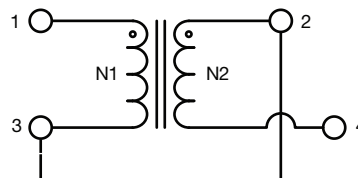
|                    |                              |                              |              |                                |
|--------------------|------------------------------|------------------------------|--------------|--------------------------------|
| <b>IFCL-5050HZ</b> | <b>6.8 <math>\mu</math>H</b> | <b><math>\pm 30\%</math></b> | <b>ER</b>    | <b>e3</b>                      |
| MODEL              | INDUCTANCE VALUE             | INDUCTANCE TOLERANCE         | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

**GLOBAL PART NUMBER**

|                |                    |                    |                   |                                  |
|----------------|--------------------|--------------------|-------------------|----------------------------------|
| <b>I F C L</b> | <b>5 0 5 0 H Z</b> | <b>E R</b>         | <b>6 R 8</b>      | <b>N</b>                         |
| PRODUCT FAMILY | SIZE               | PACKAGE CODE       | INDUCTANCE VALUE  | INDUCTANCE TOLERANCE             |
|                |                    | ER = tape and reel | 6R8 = 6.8 $\mu$ H | M = $\pm 20\%$<br>N = $\pm 30\%$ |

**SCHEMATICS**


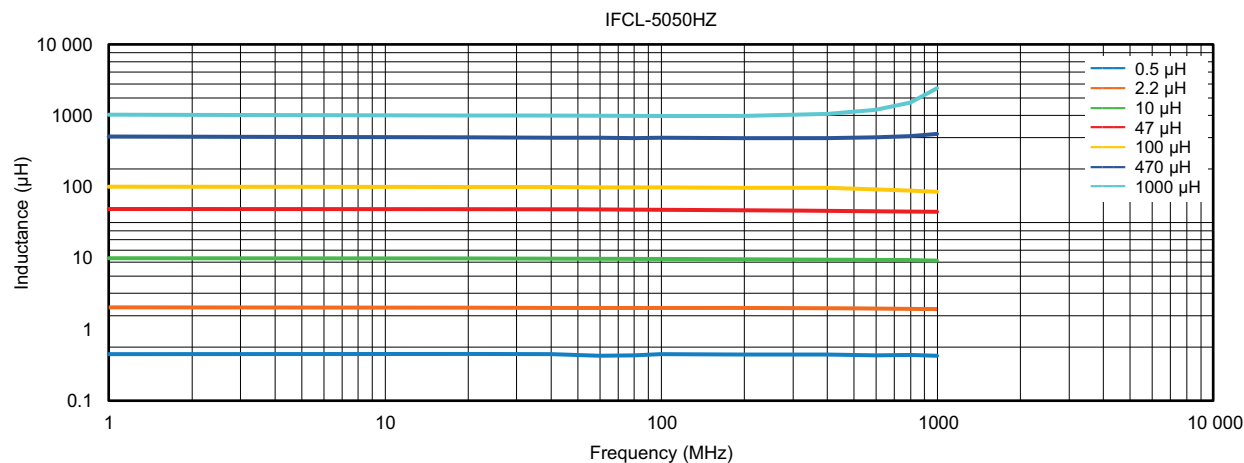
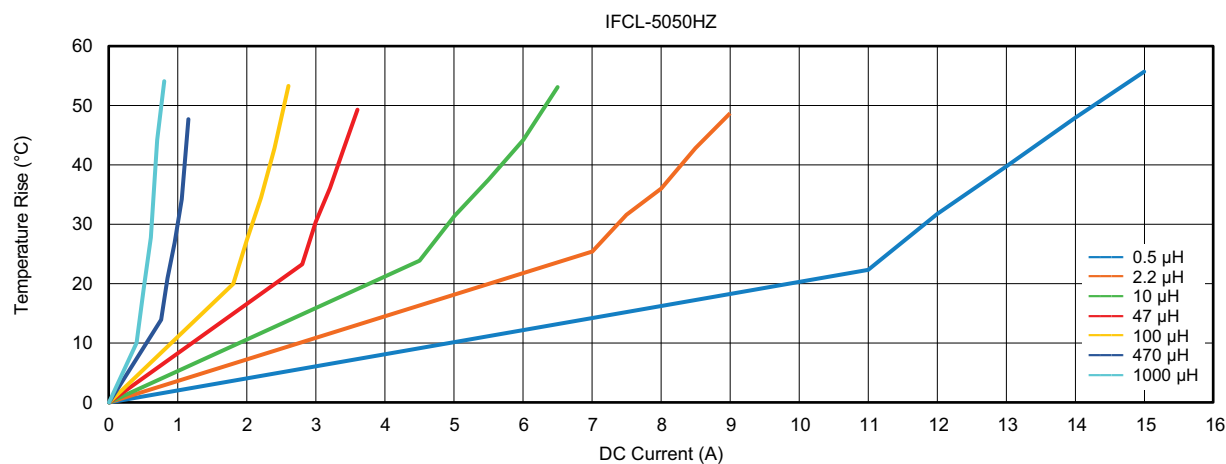
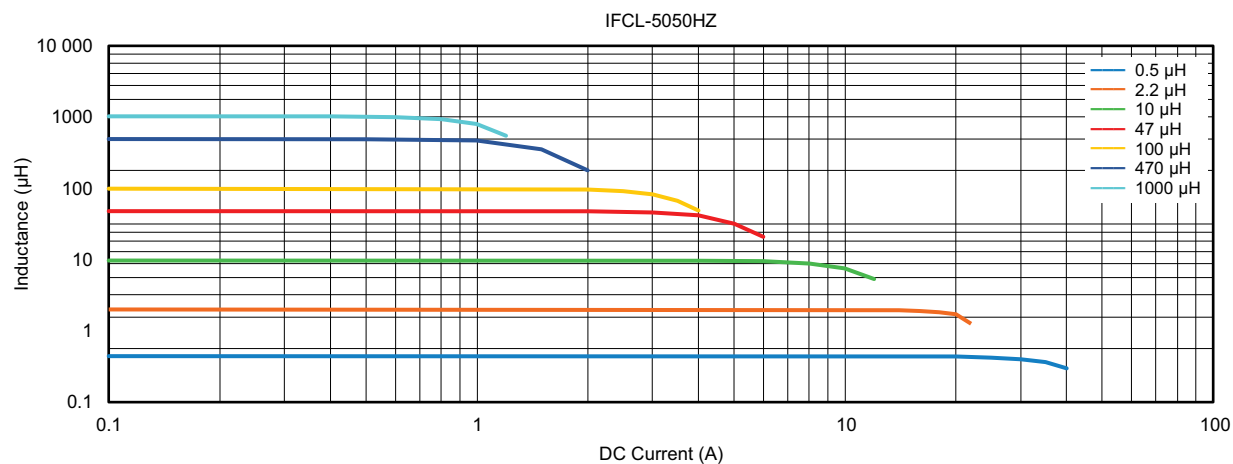
Parallel



Series



PERFORMANCE GRAPHS - PARALLEL





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