

## Shielded, SMD, Ferrite Power Inductors



### FEATURES

- 5.0 mm x 5.0 mm x 4.0 mm max. SMD package
- Magnetically shielded construction due to iron-embedded epoxy encapsulation over wirewound ferrite core
- Inductance range: 0.22  $\mu$ H to 10  $\mu$ 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)

### LINKS TO ADDITIONAL RESOURCES


[Product Page](#)

### APPLICATIONS

- DC/DC power supplies
- Noise suppression and filtering
- Portable and hand held devices
- Computer, industrial, consumer electronics

### STANDARD ELECTRICAL SPECIFICATIONS

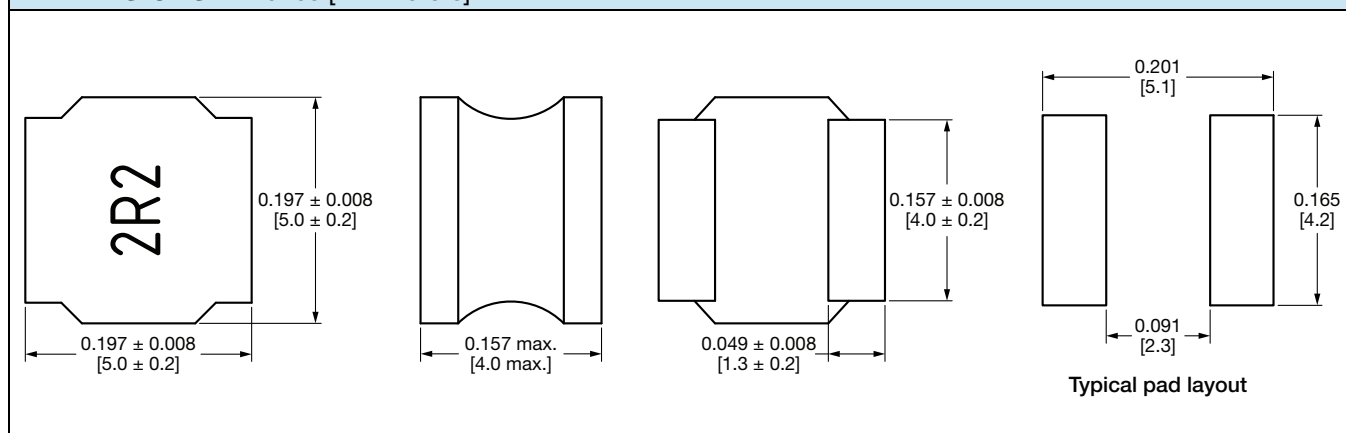
| PART NUMBER        | L <sub>0</sub> INDUCTANCE<br>( $\mu$ H) | INDUCTANCE<br>TOLERANCE<br>(%) | DCR TYP.<br>(m $\Omega$ ) | DCR MAX.<br>(m $\Omega$ ) | HEAT RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(2)</sup> | SRF MIN.<br>(MHz) |
|--------------------|-----------------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------------------------------------|--------------------------------------------------------|-------------------|
| IFSC2020DZERR22M01 | 0.22                                    | 20.0                           | 6                         | 8                         | 7.50                                                    | 20                                                     | 289               |
| IFSC2020DZERR24N01 | 0.24                                    | 30.0                           | 6                         | 8                         | 7.40                                                    | 18                                                     | 251               |
| IFSC2020DZERR47M01 | 0.47                                    | 20.0                           | 7                         | 9                         | 7.60                                                    | 11.5                                                   | 171               |
| IFSC2020DZER1R0N01 | 1.0                                     | 30.0                           | 12                        | 16                        | 5.10                                                    | 8.2                                                    | 117               |
| IFSC2020DZER1R2N01 | 1.2                                     | 30.0                           | 16                        | 21                        | 4.30                                                    | 7.1                                                    | 110               |
| IFSC2020DZER1R5N01 | 1.5                                     | 30.0                           | 15                        | 21                        | 4.80                                                    | 7.3                                                    | 86                |
| IFSC2020DZER1R8M01 | 1.8                                     | 20.0                           | 16                        | 21                        | 4.30                                                    | 6.4                                                    | 55                |
| IFSC2020DZER2R2N01 | 2.2                                     | 30.0                           | 19                        | 25                        | 4.30                                                    | 5.6                                                    | 50                |
| IFSC2020DZER2R7N01 | 2.7                                     | 30.0                           | 22                        | 29                        | 4.10                                                    | 5.1                                                    | 37                |
| IFSC2020DZER3R0N01 | 3.0                                     | 30.0                           | 22                        | 29                        | 4.20                                                    | 4.8                                                    | 37                |
| IFSC2020DZER3R3N01 | 3.3                                     | 30.0                           | 24                        | 31                        | 3.90                                                    | 4.6                                                    | 32                |
| IFSC2020DZER3R6M01 | 3.6                                     | 20.0                           | 26                        | 31                        | 3.70                                                    | 4.4                                                    | 30                |
| IFSC2020DZER3R9N01 | 3.9                                     | 30.0                           | 27                        | 35                        | 3.70                                                    | 4.2                                                    | 29                |
| IFSC2020DZER4R7N01 | 4.7                                     | 30.0                           | 30                        | 39                        | 3.30                                                    | 3.9                                                    | 28                |
| IFSC2020DZER5R6M01 | 5.6                                     | 20.0                           | 35                        | 46                        | 3.10                                                    | 4.1                                                    | 27                |
| IFSC2020DZER6R8M01 | 6.8                                     | 20.0                           | 43                        | 56                        | 2.80                                                    | 3.5                                                    | 21                |
| IFSC2020DZER8R2M01 | 8.2                                     | 20.0                           | 48                        | 62                        | 2.60                                                    | 3                                                      | 20                |
| IFSC2020DZER100M01 | 10                                      | 20.0                           | 64                        | 83                        | 2.40                                                    | 2.9                                                    | 18                |
| IFSC2020DZER120M01 | 12                                      | 20.0                           | 77                        | 100                       | 2.10                                                    | 2.5                                                    | 14                |
| IFSC2020DZER150M01 | 15                                      | 20.0                           | 86                        | 112                       | 2.10                                                    | 2.3                                                    | 13                |
| IFSC2020DZER180M01 | 18                                      | 20.0                           | 119                       | 155                       | 1.65                                                    | 2                                                      | 12                |
| IFSC2020DZER220M01 | 22                                      | 20.0                           | 129                       | 168                       | 1.60                                                    | 1.9                                                    | 11                |
| IFSC2020DZER270M01 | 27                                      | 20.0                           | 188                       | 244                       | 1.25                                                    | 1.75                                                   | 9.8               |
| IFSC2020DZER330M01 | 33                                      | 20.0                           | 188                       | 244                       | 1.40                                                    | 1.5                                                    | 9                 |
| IFSC2020DZER470M01 | 47                                      | 20.0                           | 272                       | 354                       | 1.10                                                    | 1.3                                                    | 7                 |
| IFSC2020DZER510M01 | 51                                      | 20.0                           | 380                       | 494                       | 1.10                                                    | 1.2                                                    | 6                 |
| IFSC2020DZER560M01 | 56                                      | 20.0                           | 380                       | 494                       | 0.90                                                    | 1.2                                                    | 6                 |
| IFSC2020DZER680M01 | 68                                      | 20.0                           | 400                       | 520                       | 0.90                                                    | 1.1                                                    | 6                 |

**STANDARD ELECTRICAL SPECIFICATIONS**

| PART NUMBER        | L <sub>0</sub> INDUCTANCE<br>(μH) | INDUCTANCE<br>TOLERANCE<br>(%) | DCR TYP.<br>(mΩ) | DCR MAX.<br>(mΩ) | HEAT RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(2)</sup> | SRF MIN.<br>(MHz) |
|--------------------|-----------------------------------|--------------------------------|------------------|------------------|---------------------------------------------------------|--------------------------------------------------------|-------------------|
| IFSC2020DZER750M01 | 75                                | 20.0                           | 450              | 585              | 0.80                                                    | 0.95                                                   | 6                 |
| IFSC2020DZER101M01 | 100                               | 20.0                           | 560              | 728              | 0.80                                                    | 0.9                                                    | 5                 |
| IFSC2020DZER151M01 | 150                               | 20.0                           | 750              | 975              | 0.70                                                    | 0.67                                                   | 3.7               |
| IFSC2020DZER221M01 | 220                               | 20.0                           | 1400             | 1820             | 0.50                                                    | 0.55                                                   | 3                 |
| IFSC2020DZER301M01 | 300                               | 20.0                           | 2000             | 2600             | 0.40                                                    | 0.58                                                   | 2.7               |
| IFSC2020DZER331M01 | 330                               | 20.0                           | 2100             | 2730             | 0.50                                                    | 0.47                                                   | 2.7               |
| IFSC2020DZER471M01 | 470                               | 20.0                           | 3000             | 3900             | 0.40                                                    | 0.43                                                   | 2.7               |
| IFSC2020DZER561M01 | 560                               | 20.0                           | 3780             | 4920             | 0.35                                                    | 0.36                                                   | 1.5               |
| IFSC2020DZER681M01 | 680                               | 20.0                           | 3900             | 5070             | 0.30                                                    | 0.35                                                   | 1.6               |

**Notes**

- All test data is referenced to 25 °C ambient
- Test condition: 100 kHz, 1 V
- Operating temperature range -40 °C to +125 °C
- (1) DC current (A) that will cause an approximate ΔT of 40 °C
- (2) DC current (A) that will cause L<sub>0</sub> to drop approximately 30 %

**DIMENSIONS** in inches [millimeters]

**DESCRIPTION**

|                      |                  |                      |              |                                |
|----------------------|------------------|----------------------|--------------|--------------------------------|
| <b>IFSC2020DZ-01</b> | <b>2.2 μH</b>    | <b>± 30 %</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 S C</b> | <b>2 0 2 0 D Z</b> | <b>E R</b>                   | <b>2 R 2</b>        | <b>N</b>                               | <b>0 1</b> |
| PRODUCT FAMILY | SIZE               | PACKAGE CODE                 | INDUCTANCE VALUE    | INDUCTANCE TOLERANCE                   | SERIES     |
|                |                    | <b>ER</b> =<br>tape and reel | <b>2R2</b> = 2.2 μH | <b>M</b> = ± 20 %<br><b>N</b> = ± 30 % |            |



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