# 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 µH to 10 µH
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free
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 | $L_0$ INDUCTANCE (µH) | INDUCTANCE TOLERANCE (%) | DCR TYP. (mΩ) | DCR MAX. (mΩ) | HEAT RATING CURRENT DC TYP. (A) (1) | SATURATION CURRENT DC TYP. (A) (2) | SRF MIN. (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 |



For technical questions, contact: magnetics@vishay.com

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|---|---|---|---|---|---|---|---|
| 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 |

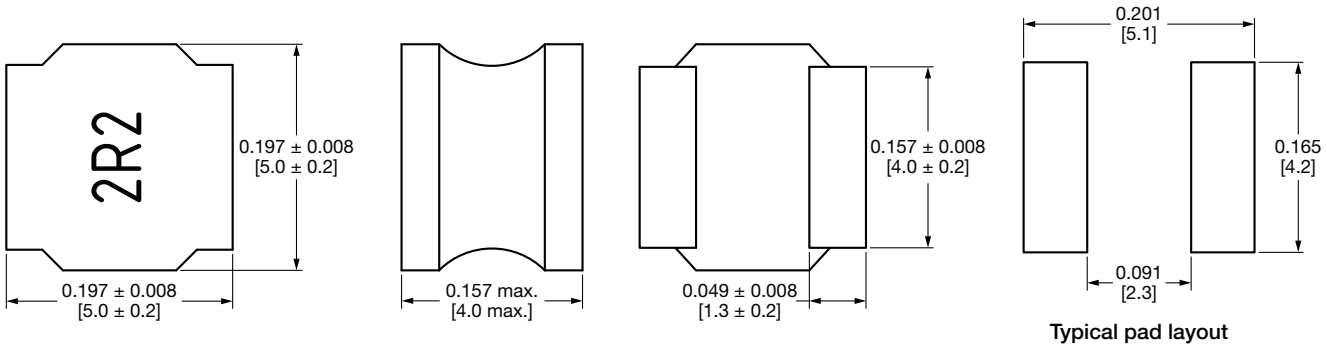
**Notes**

- 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 $L_0$ to drop approximately 30 %

## DIMENSIONS in inches [millimeters]




Typical pad layout

## DESCRIPTION

| IFSC2020DZ-01 | 2.2 µH | ± 30 % | ER | e3 |
|---|---|---|---|---|
| MODEL | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

## GLOBAL PART NUMBER

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



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