

IMC1812ER1R0J Datasheet



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| | |
|------------------------------|---|
| DiGi Electronics Part Number | IMC1812ER1R0J-DG |
| Manufacturer | Vishay Dale |
| Manufacturer Product Number | IMC1812ER1R0J |
| Description | FIXED IND 1UH 450MA 500 MOHM SMD |
| Detailed Description | 1 μ H Unshielded Drum Core, Wirewound Inductor 4 50 mA 500mOhm Max 1812 (4532 Metric) |



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Purchase and inquiry

Manufacturer Product Number:

IMC1812ER1R0J

Series:

IMC-1812

Type:

Drum Core, Wirewound

Inductance:

1 μ H

Current Rating (Amps):

450 mA

Shielding:

Unshielded

Q @ Freq:

50 @ 7.96MHz

Ratings:

-

Inductance Frequency - Test:

7.96 MHz

Package / Case:

1812 (4532 Metric)

Size / Dimension:

0.177" L x 0.126" W (4.50mm x 3.20mm)

Manufacturer:

Vishay Dale

Product Status:

Active

Material - Core:

Iron Powder

Tolerance:

\pm 5%

Current - Saturation (Isat):

-

DC Resistance (DCR):

500mOhm Max

Frequency - Self Resonant:

100MHz

Operating Temperature:

-55°C ~ 125°C

Mounting Type:

Surface Mount

Supplier Device Package:

1812

Height - Seated (Max):

0.134" (3.40mm)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8504.50.8000

Moisture Sensitivity Level (MSL):

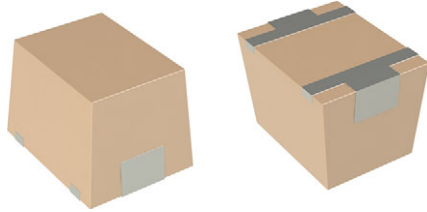
1 (Unlimited)

ECCN:

EAR99



Wirewound, Surface-Mount, Molded RF Inductors



FEATURES

- Molded construction provides superior strength and moisture resistance
- RF inductors for high frequency filtering and impedance matching
- Size: 4.5 mm x 3.2 mm x 3.2 mm
- Non-RoHS terminations available (see package code options below)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

LINKS TO ADDITIONAL RESOURCES



Product Page

TEST EQUIPMENT

- H/P 4342A Q meter with Vishay Dale test fixture or equivalent
- H/P 4191A RF impedance analyzer (for SRF measurements)
- Wheatstone bridge

ELECTRICAL SPECIFICATIONS

Inductance range: 0.010 μ H to 1000 μ H

Special tolerances available upon request

Operating temperature: -55 °C to +125 °C

Coilform material: non-magnetic for 0.010 μ H to 0.82 μ H; powdered iron for 1.0 μ H to 120 μ H; ferrite for 150 μ H to 1000 μ H

| STANDARD ELECTRICAL SPECIFICATIONS | | | | | | | |
|------------------------------------|-----------------|------------|------------------|--------|----------------|-----------------------|--------------------------------------|
| PART NUMBER | IND. (μ H) | TOL. | TEST FREQ. (MHz) | Q MIN. | SRF MIN. (MHz) | DCR MAX. (Ω) | RATED DC CURRENT (mA) ⁽¹⁾ |
| | | | L & Q | | | | |
| IMC1812ES10NM | 0.010 | $\pm 20\%$ | 50.0 | 50 | 1000 | 0.20 | 450 |
| IMC1812ES12NM | 0.012 | $\pm 20\%$ | 50.0 | 50 | 1000 | 0.20 | 450 |
| IMC1812ES18NM | 0.018 | $\pm 20\%$ | 50.0 | 50 | 1000 | 0.20 | 450 |
| IMC1812ES22NM | 0.022 | $\pm 20\%$ | 50.0 | 50 | 1000 | 0.20 | 450 |
| IMC1812ES27NM | 0.027 | $\pm 20\%$ | 50.0 | 50 | 1000 | 0.20 | 450 |
| IMC1812ES33NM | 0.033 | $\pm 20\%$ | 50.0 | 50 | 1000 | 0.30 | 450 |
| IMC1812ES39NM | 0.039 | $\pm 20\%$ | 50.0 | 50 | 1000 | 0.30 | 450 |
| IMC1812ES47NM | 0.047 | $\pm 20\%$ | 50.0 | 50 | 1000 | 0.30 | 450 |
| IMC1812ES56NM | 0.056 | $\pm 20\%$ | 50.0 | 40 | 900 | 0.35 | 450 |
| IMC1812ES68NM | 0.068 | $\pm 20\%$ | 50.0 | 40 | 800 | 0.35 | 450 |
| IMC1812ES82NM | 0.082 | $\pm 20\%$ | 50.0 | 40 | 700 | 0.40 | 450 |
| IMC1812ESR10M | 0.10 | $\pm 20\%$ | 25.2 | 30 | 650 | 0.32 | 450 |
| IMC1812ESR12M | 0.12 | $\pm 20\%$ | 25.2 | 30 | 600 | 0.30 | 450 |
| IMC1812ESR15M | 0.15 | $\pm 20\%$ | 25.2 | 30 | 500 | 0.30 | 450 |
| IMC1812ESR18M | 0.18 | $\pm 20\%$ | 25.2 | 30 | 400 | 0.35 | 450 |
| IMC1812ESR22M | 0.22 | $\pm 20\%$ | 25.2 | 30 | 350 | 0.40 | 450 |
| IMC1812ESR27M | 0.27 | $\pm 20\%$ | 25.2 | 30 | 300 | 0.45 | 450 |
| IMC1812ESR33M | 0.33 | $\pm 20\%$ | 25.2 | 30 | 250 | 0.55 | 430 |
| IMC1812ESR39M | 0.39 | $\pm 20\%$ | 25.2 | 30 | 220 | 0.70 | 380 |
| IMC1812ESR47K | 0.47 | $\pm 10\%$ | 25.2 | 30 | 190 | 0.80 | 355 |
| IMC1812ESR56K | 0.56 | $\pm 10\%$ | 25.2 | 30 | 170 | 1.20 | 285 |
| IMC1812ESR68K | 0.68 | $\pm 10\%$ | 25.2 | 30 | 150 | 1.40 | 270 |
| IMC1812ESR82K | 0.82 | $\pm 10\%$ | 25.2 | 30 | 140 | 1.60 | 250 |
| IMC1812ES1R0K | 1.0 | $\pm 10\%$ | 7.96 | 50 | 100 | 0.50 | 450 |
| IMC1812ES1R2K | 1.2 | $\pm 10\%$ | 7.96 | 50 | 80.0 | 0.55 | 430 |
| IMC1812ES1R5K | 1.5 | $\pm 10\%$ | 7.96 | 50 | 70.0 | 0.60 | 410 |
| IMC1812ES1R8K | 1.8 | $\pm 10\%$ | 7.96 | 50 | 60.0 | 0.65 | 390 |



| STANDARD ELECTRICAL SPECIFICATIONS | | | | | | | |
|------------------------------------|-----------|--------|------------------|--------|----------------|--------------|--------------------------------------|
| PART NUMBER | IND. (μH) | TOL. | TEST FREQ. (MHz) | Q MIN. | SRF MIN. (MHz) | DCR MAX. (Ω) | RATED DC CURRENT (mA) ⁽¹⁾ |
| | | | L & Q | | | | |
| IMC1812ES2R2K | 2.2 | ± 10 % | 7.96 | 50 | 55.0 | 0.70 | 380 |
| IMC1812ES2R7K | 2.7 | ± 10 % | 7.96 | 50 | 50.0 | 0.75 | 370 |
| IMC1812ES3R3K | 3.3 | ± 10 % | 7.96 | 50 | 45.0 | 0.80 | 355 |
| IMC1812ES3R9K | 3.9 | ± 10 % | 7.96 | 50 | 40.0 | 0.90 | 330 |
| IMC1812ES4R7K | 4.7 | ± 10 % | 7.96 | 50 | 35.0 | 1.00 | 315 |
| IMC1812ES5R6K | 5.6 | ± 10 % | 7.96 | 50 | 33.0 | 1.10 | 300 |
| IMC1812ES6R8K | 6.8 | ± 10 % | 7.96 | 50 | 27.0 | 1.20 | 285 |
| IMC1812ES8R2K | 8.2 | ± 10 % | 7.96 | 50 | 25.0 | 1.40 | 270 |
| IMC1812ES100K | 10.0 | ± 10 % | 2.52 | 50 | 20.0 | 1.60 | 250 |
| IMC1812ES120K | 12.0 | ± 10 % | 2.52 | 50 | 18.0 | 2.00 | 225 |
| IMC1812ES150K | 15.0 | ± 10 % | 2.52 | 50 | 17.0 | 2.50 | 200 |
| IMC1812ES180K | 18.0 | ± 10 % | 2.52 | 50 | 15.0 | 2.80 | 190 |
| IMC1812ES220K | 22.0 | ± 10 % | 2.52 | 50 | 13.0 | 3.20 | 180 |
| IMC1812ES270K | 27.0 | ± 10 % | 2.52 | 50 | 12.0 | 3.60 | 170 |
| IMC1812ES330K | 33.0 | ± 10 % | 2.52 | 50 | 11.0 | 4.00 | 160 |
| IMC1812ES390K | 39.0 | ± 10 % | 2.52 | 50 | 11.0 | 4.50 | 150 |
| IMC1812ES470K | 47.0 | ± 10 % | 2.52 | 50 | 10.0 | 5.00 | 140 |
| IMC1812ES560K | 56.0 | ± 10 % | 2.52 | 50 | 9.0 | 5.50 | 135 |
| IMC1812ES680K | 68.0 | ± 10 % | 2.52 | 50 | 9.0 | 6.00 | 130 |
| IMC1812ES820K | 82.0 | ± 10 % | 2.52 | 50 | 8.0 | 7.00 | 120 |
| IMC1812ES101K | 100.0 | ± 10 % | 0.79 | 40 | 8.0 | 8.00 | 110 |
| IMC1812ES121K | 120.0 | ± 10 % | 0.79 | 40 | 6.0 | 8.00 | 110 |
| IMC1812ES151K | 150.0 | ± 10 % | 0.79 | 40 | 5.0 | 9.00 | 105 |
| IMC1812ES181K | 180.0 | ± 10 % | 0.79 | 40 | 5.0 | 9.50 | 102 |
| IMC1812ES221K | 220.0 | ± 10 % | 0.79 | 40 | 4.0 | 10.0 | 100 |
| IMC1812ES271K | 270.0 | ± 10 % | 0.79 | 40 | 4.0 | 12.0 | 92 |
| IMC1812ES331K | 330.0 | ± 10 % | 0.79 | 40 | 3.5 | 14.0 | 85 |
| IMC1812ES391K | 390.0 | ± 10 % | 0.79 | 40 | 3.0 | 16.0 | 80 |
| IMC1812ES471K | 470.0 | ± 10 % | 0.79 | 40 | 3.0 | 26.0 | 62 |
| IMC1812ES561K | 560.0 | ± 10 % | 0.79 | 30 | 3.0 | 30.0 | 50 |
| IMC1812ES681K | 680.0 | ± 10 % | 0.79 | 30 | 3.0 | 30.0 | 50 |
| IMC1812ES821K | 820.0 | ± 10 % | 0.79 | 30 | 2.5 | 35.0 | 30 |
| IMC1812ES102K | 1000.0 | ± 10 % | 0.25 | 30 | 2.5 | 40.0 | 30 |

Note

(1) Rated DC current based on the maximum temperature rise, not to exceed 40 °C at +85 °C ambient

PART MARKING

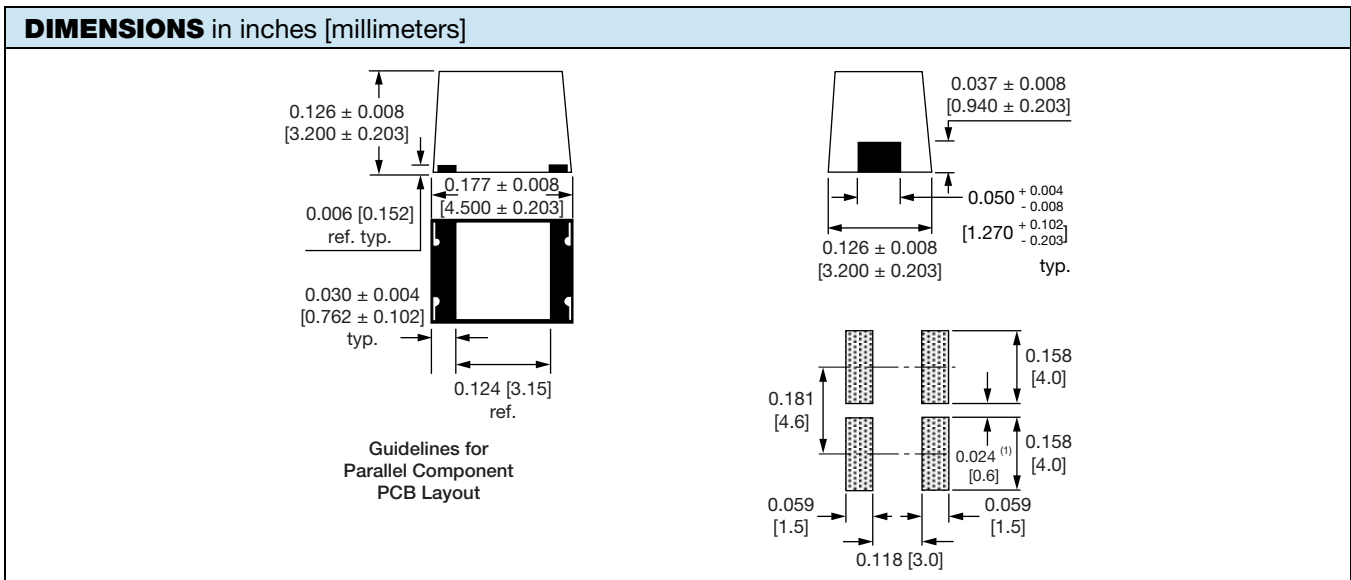
- DALE
- Inductance code
- Date code



| DESCRIPTION | | | |
|-------------|------------------|----------------------|--------------|
| IMC-1812 | 10 μ H | $\pm 10 \%$ | ES |
| MODEL | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE |

| GLOBAL PART NUMBER | | | | |
|--------------------|---------|--------------------|------------------|--|
| I M C | 1 8 1 2 | E S | 1 0 0 | K |
| PRODUCT FAMILY | SIZE | PACKAGE CODE | INDUCTANCE VALUE | INDUCTANCE TOLERANCE |
| | | ES = tape and reel | 100 = 10 μ H | M = $\pm 20 \%$ K = $\pm 10 \%$ J = $\pm 5 \%$ H = $\pm 3 \%$ |

| PACKAGE CODE & TERMINATION OPTIONS |
|--|
| ES = RoHS compliant with tape and reel packaging (2000 pcs on 13-inch reel) |
| ER = RoHS compliant with tape and reel packaging (500 pcs on 7-inch reel) |
| EB = RoHS compliant with bulk packaging (500 pcs/bulk) |
| RQ = non-RoHS tin-lead with tape and reel packaging (2000 pcs on 13-inch reel) |
| RV = non-RoHS tin-lead with tape and reel packaging (500 pcs on 7-inch reel) |
| BN = non-RoHS tin-lead with bulk packaging (500 pcs/bulk) |



Note
 (1) Recommended minimum spacing between components



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