

# IMC0402ER39NJ Datasheet



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|                              |  |
|------------------------------|--|
| DiGi Electronics Part Number | IMC0402ER39NJ-DG   |
| Manufacturer                 | <a href="#">Vishay Dale</a>                                    |
| Manufacturer Product Number  | IMC0402ER39NJ  |
| Description                  | FIXED IND 39NH 150MA 1.7 OHM SMD                               |
| Detailed Description         | 39 nH Unshielded Inductor 150 mA 1.7Ohm Max 0402 (1005 Metric) |

<https://www.DiGi-Electronics.com>



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

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## Purchase and inquiry

Manufacturer Product Number:

IMC0402ER39NJ

Series:

IMC-0402

Type:

-

Inductance:

39 nH

Current Rating (Amps):

150 mA

Shielding:

Unshielded

Q @ Freq:

18 @ 800MHz

Ratings:

-

Inductance Frequency - Test:

100 MHz

Package / Case:

0402 (1005 Metric)

Size / Dimension:

0.039" L x 0.022" W (1.00mm x 0.55mm)

Manufacturer:

Vishay Dale

Product Status:

Obsolete

Material - Core:

Ceramic

Tolerance:

±5%

Current - Saturation (Isat):

-

DC Resistance (DCR):

1.70hm Max

Frequency - Self Resonant:

1.8GHz

Operating Temperature:

-40°C ~ 100°C

Mounting Type:

Surface Mount

Supplier Device Package:

0402 (1005 Metric)

Height - Seated (Max):

0.024" (0.60mm)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8504.50.8000

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99





www.vishay.com

IMC-0402

Vishay Dale

# High Frequency, Surface Mount, Laser Spiral, Coated Inductors



## FEATURES

- Very small size
- High self-resonant frequency values
- High Q values relative to size at higher frequencies
- Coated coil provides protection and moisture resistance
- Compatible with vapor phase and infrared reflow soldering
- Tape and reel packaging for automatic handling, 10 000/reel, EIA-481
- L and Q value not affected by mounting orientation
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
 COMPLIANT  
 HALOGEN  
**FREE**

| STANDARD ELECTRICAL SPECIFICATIONS |                |                     |     |           |                      |                    |   |
|------------------------------------|----------------|---------------------|-----|-----------|----------------------|--------------------|---|
| IND.<br>(nH)                       | TOL.           | TEST FREQ.<br>(MHz) |     | Q<br>MIN. | SRF<br>MIN.<br>(MHz) | DCR<br>MAX.<br>(Ω) | RATED<br>DC<br>CURRENT<br>(mA) <sup>(1)</sup> |
|                                    |                | L                   | Q   |           |                      |                    |   |
| 1.0                                | 0.3 nH, 0.2 nH | 100                 | 800 | 21        | 6000                 | 0.05               | 400   |
| 1.2                                | 0.3 nH, 0.2 nH | 100                 | 800 | 21        | 6000                 | 0.06               | 400   |
| 1.5                                | 0.3 nH, 0.2 nH | 100                 | 800 | 21        | 6000                 | 0.07               | 400   |
| 1.8                                | 0.3 nH, 0.2 nH | 100                 | 800 | 21        | 6000                 | 0.08               | 400   |
| 2.2                                | 0.3 nH, 0.2 nH | 100                 | 800 | 21        | 6000                 | 0.09               | 400   |
| 2.7                                | 0.3 nH, 0.2 nH | 100                 | 800 | 21        | 5500                 | 0.10               | 400   |
| 3.3                                | 0.3 nH, 0.2 nH | 100                 | 800 | 21        | 5500                 | 0.12               | 400   |
| 3.9                                | 0.3 nH, 0.2 nH | 100                 | 800 | 20        | 5200                 | 0.15               | 360   |
| 4.7                                | 0.3 nH, 0.2 nH | 100                 | 800 | 20        | 4800                 | 0.17               | 360   |
| 5.6                                | 0.3 nH, 0.2 nH | 100                 | 800 | 20        | 4600                 | 0.19               | 340   |
| 6.8                                | 5 %            | 100                 | 800 | 19        | 4000                 | 0.30               | 320   |
| 8.2                                | 5 %            | 100                 | 800 | 19        | 3500                 | 0.35               | 320   |
| 10                                 | 5 %, 2 %       | 100                 | 800 | 19        | 2800                 | 0.41               | 320   |
| 12                                 | 5 %, 2 %       | 100                 | 800 | 19        | 2800                 | 0.45               | 320   |
| 15                                 | 5 %, 2 %       | 100                 | 800 | 19        | 2500                 | 0.60               | 240   |
| 18                                 | 5 %, 2 %       | 100                 | 800 | 19        | 2200                 | 0.70               | 240   |
| 22                                 | 5 %, 2 %       | 100                 | 800 | 19        | 2000                 | 0.80               | 200   |
| 27                                 | 5 %, 2 %       | 100                 | 800 | 19        | 1800                 | 1.20               | 200   |
| 33                                 | 5 %, 2 %       | 100                 | 800 | 18        | 1800                 | 1.40               | 170   |
| 39                                 | 5 %, 2 %       | 100                 | 800 | 18        | 1800                 | 1.70               | 150   |
| 47                                 | 5 %, 2 %       | 100                 | 800 | 17        | 1800                 | 2.10               | 140   |
| 56                                 | 5 %, 2 %       | 100                 | 800 | 17        | 1500                 | 2.50               | 130   |
| 68                                 | 5 %, 2 %       | 100                 | 800 | 15        | 1500                 | 4.00               | 120   |
| 82                                 | 5 %, 2 %       | 100                 | 800 | 15        | 1400                 | 4.50               | 110   |
| 100                                | 5 %, 2 %       | 100                 | 800 | 14        | 1200                 | 5.50               | 90  |

**Note**

(1) Value obtained when current flows and temperature has risen 15 °C

## ELECTRICAL SPECIFICATIONS

**Inductance Range:** 1.0 nH to 100 nH

**Inductance and Tolerance:** ± 0.3 nH for 1.0 nH to 5.6 nH, ± 5 % for 6.8 nH to 100 nH

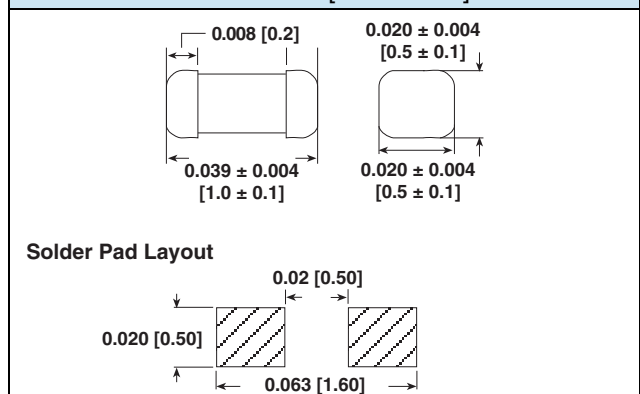
**Operating Temperature:** -40 °C to +100 °C

**Core Material:** Ceramic

## TEST EQUIPMENT

- Inductance and Q measured on HP4291B
- SRF measured on HP8753E
- DCR measured on HP4338B

## DIMENSIONS in inches [millimeters]



| DESCRIPTION |                  |                      |              |                                |
|-------------|------------------|----------------------|--------------|--------------------------------|
| IMC-0402    | 10 nH            | ± 5 %                | ER           | e3                             |
| MODEL       | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

| GLOBAL PART NUMBER |   |   |                  |   |
|--------------------|---|---|------------------|---|
| I                  | M | C | 0                | 4 |
| PRODUCT FAMILY     |   |   | 0                | 2 |
|                    |   |   | E                | R |
|                    |   |   | PACKAGE CODE     |   |
|                    |   |   | 1                | 0 |
|                    |   |   | INDUCTANCE VALUE |   |
|                    |   |   | N                | J |
|                    |   |   | TOL.             |   |



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