

# ISC1812ES220J Datasheet

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|                              |   |
|------------------------------|---|
| DiGi Electronics Part Number | ISC1812ES220J-DG  |
| Manufacturer                 | <a href="#">Vishay Dale</a>   |
| Manufacturer Product Number  | ISC1812ES220J   |
| Description                  | FIXED IND 22UH 227MA 1.36OHM SMD  |
| Detailed Description         | 22 $\mu$ H Shielded Drum Core, Wirewound Inductor 22<br>7 mA 1.36Ohm Max 1812 (4532 Metric) |



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## Purchase and inquiry

Manufacturer Product Number:

ISC1812ES220J

Series:

ISC-1812

Type:

Drum Core, Wirewound

Inductance:

22  $\mu$ H

Current Rating (Amps):

227 mA

Shielding:

Shielded

Q @ Freq:

50 @ 2.52MHz

Ratings:

-

Inductance Frequency - Test:

2.52 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):

1.360hm Max

Frequency - Self Resonant:

14MHz

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):

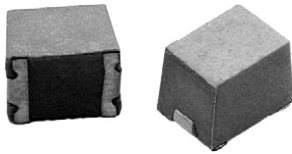
1 (Unlimited)

ECCN:

EAR99



## Wirewound, Surface-Mount, Molded, Shielded Inductors



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

### STANDARD ELECTRICAL SPECIFICATIONS

| IND.<br>( $\mu$ H) | TOL.       | TEST<br>FREQ.<br>(MHz) | Q MIN. | SRF<br>MIN.<br>(MHz) | DCR<br>MAX.<br>( $\Omega$ ) | RATED DC<br>CURRENT<br>(mA) <sup>(1)</sup> |
|--------------------|------------|------------------------|--------|----------------------|-----------------------------|--|
|                    |            | L & Q                  |        |                      |                             |  |
| 0.10               | $\pm 20\%$ | 25.2                   | 30     | 460                  | 0.23                        | 552  |
| 0.12               | $\pm 20\%$ | 25.2                   | 30     | 400                  | 0.26                        | 519  |
| 0.15               | $\pm 20\%$ | 25.2                   | 30     | 390                  | 0.29                        | 491  |
| 0.18               | $\pm 20\%$ | 25.2                   | 30     | 350                  | 0.32                        | 468  |
| 0.22               | $\pm 20\%$ | 25.2                   | 30     | 310                  | 0.36                        | 441  |
| 0.33               | $\pm 20\%$ | 25.2                   | 30     | 280                  | 0.40                        | 418  |
| 0.39               | $\pm 20\%$ | 25.2                   | 30     | 240                  | 0.45                        | 394  |
| 0.47               | $\pm 20\%$ | 25.2                   | 30     | 215                  | 0.60                        | 342  |
| 0.56               | $\pm 20\%$ | 25.2                   | 30     | 205                  | 0.75                        | 306  |
| 0.68               | $\pm 20\%$ | 25.2                   | 30     | 195                  | 0.80                        | 296  |
| 0.82               | $\pm 20\%$ | 25.2                   | 30     | 165                  | 0.95                        | 271  |
| 0.8                | $\pm 20\%$ | 25.2                   | 30     | 155                  | 1.20                        | 242  |
| 1.0                | $\pm 10\%$ | 7.96                   | 30     | 140                  | 0.35                        | 447  |
| 1.2                | $\pm 10\%$ | 7.96                   | 30     | 120                  | 0.38                        | 429  |
| 1.5                | $\pm 10\%$ | 7.96                   | 30     | 100                  | 0.40                        | 418  |
| 1.8                | $\pm 10\%$ | 7.96                   | 30     | 90.0                 | 0.43                        | 403  |
| 2.2                | $\pm 10\%$ | 7.96                   | 30     | 80.0                 | 0.46                        | 390  |
| 2.7                | $\pm 10\%$ | 7.96                   | 30     | 67.0                 | 0.49                        | 378  |
| 3.3                | $\pm 10\%$ | 7.96                   | 30     | 61.0                 | 0.55                        | 357  |
| 3.9                | $\pm 10\%$ | 7.96                   | 30     | 56.0                 | 0.59                        | 344  |
| 4.7                | $\pm 10\%$ | 7.96                   | 30     | 50.0                 | 0.62                        | 336  |
| 5.6                | $\pm 10\%$ | 7.96                   | 30     | 40.0                 | 0.69                        | 333  |
| 6.8                | $\pm 10\%$ | 7.96                   | 30     | 32.0                 | 0.75                        | 306  |
| 8.2                | $\pm 10\%$ | 7.96                   | 30     | 30.0                 | 0.82                        | 292  |
| 10.0               | $\pm 10\%$ | 2.52                   | 50     | 25.0                 | 0.90                        | 279  |
| 12.0               | $\pm 10\%$ | 2.52                   | 50     | 22.0                 | 1.00                        | 265  |
| 15.0               | $\pm 10\%$ | 2.52                   | 50     | 18.0                 | 1.10                        | 252  |
| 18.0               | $\pm 10\%$ | 2.52                   | 50     | 15.0                 | 1.24                        | 238  |
| 22.0               | $\pm 10\%$ | 2.52                   | 50     | 14.0                 | 1.36                        | 227  |
| 27.0               | $\pm 10\%$ | 2.52                   | 40     | 13.0                 | 1.56                        | 212  |
| 33.0               | $\pm 10\%$ | 2.52                   | 40     | 12.0                 | 1.72                        | 202  |
| 39.0               | $\pm 10\%$ | 2.52                   | 40     | 11.0                 | 1.89                        | 192  |
| 47.0               | $\pm 10\%$ | 2.52                   | 40     | 9.0                  | 2.10                        | 183  |
| 56.0               | $\pm 10\%$ | 2.52                   | 40     | 8.0                  | 2.34                        | 173  |
| 68.0               | $\pm 10\%$ | 2.52                   | 40     | 7.6                  | 2.60                        | 164  |
| 82.0               | $\pm 10\%$ | 2.52                   | 40     | 7.2                  | 2.86                        | 156  |
| 100.0              | $\pm 10\%$ | 0.796                  | 40     | 7.0                  | 3.25                        | 147  |
| 120.0              | $\pm 10\%$ | 0.796                  | 40     | 6.0                  | 3.64                        | 139  |
| 150.0              | $\pm 10\%$ | 0.796                  | 40     | 5.0                  | 4.16                        | 130  |
| 180.0              | $\pm 10\%$ | 0.796                  | 40     | 4.5                  | 5.72                        | 111  |
| 220.0              | $\pm 10\%$ | 0.796                  | 40     | 4.2                  | 6.30                        | 105  |
| 270.0              | $\pm 10\%$ | 0.796                  | 40     | 4.0                  | 6.90                        | 101  |
| 330.0              | $\pm 10\%$ | 0.796                  | 40     | 3.7                  | 7.54                        | 96   |
| 390.0              | $\pm 10\%$ | 0.796                  | 40     | 3.5                  | 8.20                        | 92   |
| 470.0              | $\pm 10\%$ | 0.796                  | 40     | 3.3                  | 9.20                        | 87   |
| 560.0              | $\pm 10\%$ | 0.796                  | 30     | 2.8                  | 10.50                       | 82   |
| 680.0              | $\pm 10\%$ | 0.796                  | 40     | 2.6                  | 12.00                       | 76   |
| 820.0              | $\pm 10\%$ | 0.796                  | 30     | 2.2                  | 13.50                       | 72   |
| 1000.0             | $\pm 10\%$ | 0.252                  | 30     | 2.0                  | 16.00                       | 66   |

#### Note

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

### FEATURES

- Molded construction provides superior strength and moisture resistance
- Tape and reel packaging for automatic handling, 2000/reel, EIA-481
- Compatible with vapor phase and infrared reflow soldering
- Shielded construction minimizes coupling to other components
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

### ELECTRICAL SPECIFICATIONS

Inductance range: 0.10  $\mu$ H to 1000  $\mu$ H

Special tolerances available upon request

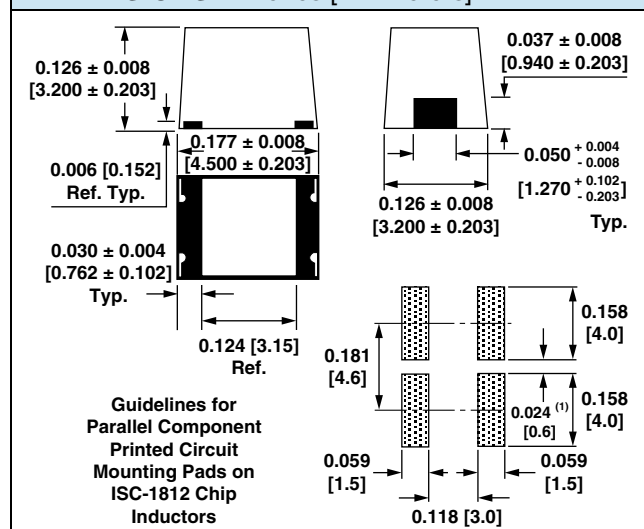
Operating temperature: -55 °C to +125 °C

Coilform material: non-magnetic for 0.10  $\mu$ H to 0.82  $\mu$ H; powdered iron for 1.0  $\mu$ H to 22  $\mu$ H; ferrite for 27  $\mu$ H to 1000  $\mu$ H

### 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

### DIMENSIONS in inches [millimeters]

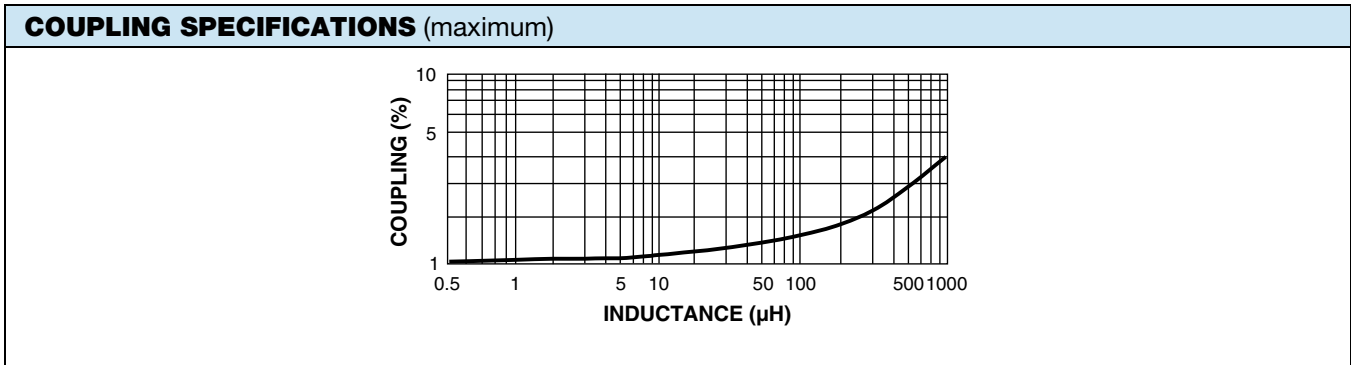


#### Note

(1) Recommended minimum spacing between components

### PART MARKING

- Vishay Dale
- Inductance code
- Date code



**DESCRIPTION**

|          |                  |                      |              |                                |
|----------|------------------|----------------------|--------------|--------------------------------|
| ISC-1812 | 10 µH            | ± 10 %               | ER           | e3                             |
| MODEL    | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

**GLOBAL PART NUMBER**

|                |   |   |      |   |   |   |              |   |                  |   |   |      |
|----------------|---|---|------|---|---|---|--------------|---|------------------|---|---|------|
| I              | S | C | 1    | 8 | 1 | 2 | E            | R | 1                | 0 | 0 | K    |
| PRODUCT FAMILY |   |   | SIZE |   |   |   | PACKAGE CODE |   | INDUCTANCE VALUE |   |   | TOL. |



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