

## Filter Inductors High Current



### ELECTRICAL SPECIFICATIONS

**Inductance:** Measured at 1.0 V with no DC current

**Incremental Current:** The typical current at which the inductance will be decreased by 5 % from its initial zero DC value

**Dielectric Rating:** 2500 VRMS between winding and outer circumference to within 0.250" [6.35 mm] of the insulating sleeve edge

**Operating Temperature:** - 55 °C to + 125 °C (no load)  
- 55 °C to + 85 °C (at full rated current)

**Current Rating:** Maximum continuous Operating current (DC or RMS) based on a 40 °C temperature rise

### FEATURES

- Printed circuit mounting (axial leads)
- Protected by polyolefin tubing
- High saturation bobbin used allowing high inductance with low DC resistance
- Pre-tinned leads
- High resistivity core offers very high parallel resistance, resulting in maximum coil performance
- 20 sleeveless models available at reduced cost



**RoHS**  
COMPLIANT

### MECHANICAL SPECIFICATIONS

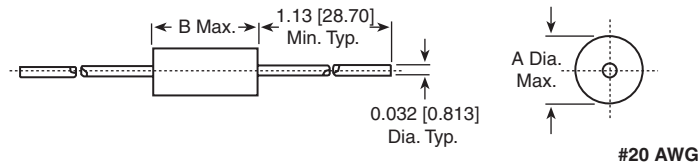
**Wire:** Solid soft copper

**Terminals:** 20 AWG tinned copper leads

**Coating:** Polyolefin tubing - flame retardant UL type VW-1 per MIL-I-23053/5, Class 3 requirements

**Core Material:** Ferrite

### DIMENSIONS in inches [millimeters]



| MODEL | A<br>(Max.)   | B<br>(Max.)   |
|-------|---------------|---------------|
| IHD-1 | 0.270 [6.85]  | 0.700 [17.78] |
| IHD-3 | 0.460 [11.68] | 0.900 [22.86] |

### STANDARD ELECTRICAL SPECIFICATIONS

| IND.<br>at 1 kHz<br>( $\mu$ H) | TOL.   | DCR<br>MAX.<br>(Ohms) | RATED<br>CURRENT<br>(Max. Amps) | INCREMENTAL<br>CURRENT<br>(Amps Approx.) | IND.<br>at 1 kHz<br>( $\mu$ H) | TOL.   | DCR<br>MAX.<br>(Ohms) | RATED<br>CURRENT<br>(Max. Amps) | INCREMENTAL<br>CURRENT<br>(Amps Approx.) |
|--------------------------------|--------|-----------------------|---------------------------------|--|--------------------------------|--------|-----------------------|---------------------------------|--|
| <b>MODEL IHD-1</b>             |        |                       |                                 |  |                                |        |                       |                                 |  |
| 1.0                            | ± 15 % | 0.009                 | 5.3                             | 7.00                                     | 56.0                           | ± 15 % | 0.130                 | 1.4                             | 0.97                                     |
| 1.2                            | ± 15 % | 0.010                 | 5.0                             | 6.40                                     | 68.0                           | ± 15 % | 0.145                 | 1.3                             | 0.88                                     |
| 1.5                            | ± 15 % | 0.011                 | 4.8                             | 5.70                                     | 82.0                           | ± 15 % | 0.152                 | 1.3                             | 0.80                                     |
| 1.8                            | ± 15 % | 0.012                 | 4.6                             | 5.20                                     | 100.0                          | ± 15 % | 0.208                 | 1.1                             | 0.73                                     |
| 2.2                            | ± 15 % | 0.013                 | 4.4                             | 4.70                                     | 120.0                          | ± 15 % | 0.283                 | 0.94                            | 0.66                                     |
| 2.7                            | ± 15 % | 0.014                 | 4.2                             | 4.30                                     | 150.0                          | ± 15 % | 0.330                 | 0.87                            | 0.60                                     |
| 3.3                            | ± 15 % | 0.016                 | 4.0                             | 3.90                                     | 180.0                          | ± 15 % | 0.362                 | 0.83                            | 0.54                                     |
| 3.9                            | ± 15 % | 0.017                 | 3.8                             | 3.60                                     | 220.0                          | ± 15 % | 0.505                 | 0.70                            | 0.49                                     |
| 4.7                            | ± 15 % | 0.022                 | 3.4                             | 3.30                                     | 270.0                          | ± 15 % | 0.557                 | 0.67                            | 0.45                                     |
| 5.6                            | ± 15 % | 0.024                 | 3.2                             | 3.00                                     | 330.0                          | ± 15 % | 0.650                 | 0.62                            | 0.40                                     |
| 6.8                            | ± 15 % | 0.026                 | 3.1                             | 2.70                                     | 390.0                          | ± 15 % | 0.770                 | 0.57                            | 0.37                                     |
| 8.2                            | ± 15 % | 0.028                 | 3.0                             | 2.50                                     | 470.0                          | ± 15 % | 1.030                 | 0.49                            | 0.34                                     |
| 10.0                           | ± 15 % | 0.033                 | 2.8                             | 2.30                                     | 560.0                          | ± 15 % | 1.140                 | 0.47                            | 0.31                                     |
| 12.0                           | ± 15 % | 0.037                 | 2.6                             | 2.10                                     | 680.0                          | ± 15 % | 1.500                 | 0.41                            | 0.28                                     |
| 15.0                           | ± 15 % | 0.040                 | 2.5                             | 1.90                                     | 820.0                          | ± 15 % | 1.980                 | 0.36                            | 0.26                                     |
| 18.0                           | ± 15 % | 0.044                 | 2.4                             | 1.70                                     | 1000.0                         | ± 15 % | 2.300                 | 0.33                            | 0.23                                     |
| 22.0                           | ± 15 % | 0.050                 | 2.2                             | 1.50                                     | 1200.0                         | ± 15 % | 2.550                 | 0.31                            | 0.21                                     |
| 27.0                           | ± 15 % | 0.070                 | 1.9                             | 1.40                                     | 1500.0                         | ± 15 % | 3.000                 | 0.29                            | 0.19                                     |
| 33.0                           | ± 15 % | 0.075                 | 1.8                             | 1.30                                     | 1800.0                         | ± 15 % | 4.000                 | 0.25                            | 0.18                                     |
| 39.0                           | ± 15 % | 0.084                 | 1.7                             | 1.20                                     | 2200.0                         | ± 15 % | 4.400                 | 0.24                            | 0.16                                     |
| 47.0                           | ± 15 % | 0.104                 | 1.6                             | 1.10                                     | 2700.0                         | ± 15 % | 5.800                 | 0.21                            | 0.14                                     |



| STANDARD ELECTRICAL SPECIFICATIONS |        |                 |                           |                                    |                    |        |                 |                           |                                    |
|------------------------------------|--------|-----------------|---------------------------|------------------------------------|--------------------|--------|-----------------|---------------------------|------------------------------------|
| IND. at 1 kHz (μH)                 | TOL.   | DCR MAX. (Ohms) | RATED CURRENT (Max. Amps) | INCREMENTAL CURRENT (Amps Approx.) | IND. at 1 kHz (μH) | TOL.   | DCR MAX. (Ohms) | RATED CURRENT (Max. Amps) | INCREMENTAL CURRENT (Amps Approx.) |
| <b>MODEL IHD-1</b>                 |        |                 |                           |                                    |                    |        |                 |                           |                                    |
| 3300.0                             | ± 15 % | 6.560           | 0.20                      | 0.13                               | 8200.0             | ± 15 % | 20.800          | 0.11                      | 0.08                               |
| 3900.0                             | ± 15 % | 8.630           | 0.17                      | 0.12                               | 10000.0            | ± 15 % | 23.400          | 0.10                      | 0.08                               |
| 4700.0                             | ± 15 % | 10.100          | 0.16                      | 0.11                               | 12000.0            | ± 15 % | 26.000          | 0.10                      | 0.07                               |
| 5600.0                             | ± 15 % | 11.200          | 0.15                      | 0.10                               | 15000.0            | ± 15 % | 36.000          | 0.08                      | 0.06                               |
| 6800.0                             | ± 15 % | 15.000          | 0.13                      | 0.09                               | 18000.0            | v      | 40.000          | 0.08                      | 0.06                               |
| <b>MODEL IHD-3</b>                 |        |                 |                           |                                    |                    |        |                 |                           |                                    |
| 3.9                                | ± 15 % | 0.007           | 4.0                       | 8.20                               | 680.0              | ± 15 % | 0.570           | 1.0                       | 0.67                               |
| 4.7                                | ± 15 % | 0.008           | 4.0                       | 7.50                               | 820.0              | ± 15 % | 0.643           | 0.8                       | 0.61                               |
| 5.6                                | ± 15 % | 0.011           | 4.0                       | 6.90                               | 1000.0             | ± 15 % | 0.844           | 0.8                       | 0.56                               |
| 6.8                                | ± 15 % | 0.011           | 4.0                       | 6.30                               | 1200.0             | ± 15 % | 0.977           | 0.6                       | 0.51                               |
| 8.2                                | ± 15 % | 0.013           | 4.0                       | 5.70                               | 1500.0             | ± 15 % | 1.180           | 0.6                       | 0.46                               |
| 10.0                               | ± 15 % | 0.016           | 4.0                       | 5.20                               | 1800.0             | ± 15 % | 1.500           | 0.6                       | 0.42                               |
| 12.0                               | ± 15 % | 0.018           | 4.0                       | 4.70                               | 2200.0             | ± 15 % | 1.760           | 0.5                       | 0.38                               |
| 15.0                               | ± 15 % | 0.020           | 4.0                       | 4.30                               | 2700.0             | ± 15 % | 2.130           | 0.4                       | 0.34                               |
| 18.0                               | ± 15 % | 0.022           | 4.0                       | 3.90                               | 3300.0             | ± 15 % | 2.530           | 0.4                       | 0.31                               |
| 22.0                               | ± 15 % | 0.024           | 4.0                       | 3.50                               | 3900.0             | ± 15 % | 2.840           | 0.4                       | 0.29                               |
| 27.0                               | ± 15 % | 0.025           | 4.0                       | 3.20                               | 4700.0             | ± 15 % | 3.790           | 0.4                       | 0.26                               |
| 33.0                               | ± 15 % | 0.028           | 4.0                       | 2.90                               | 5600.0             | ± 15 % | 4.240           | 0.32                      | 0.24                               |
| 39.0                               | ± 15 % | 0.031           | 4.0                       | 2.70                               | 6800.0             | ± 15 % | 5.750           | 0.25                      | 0.22                               |
| 47.0                               | ± 15 % | 0.034           | 4.0                       | 2.50                               | 8200.0             | ± 15 % | 6.440           | 0.25                      | 0.20                               |
| 56.0                               | ± 15 % | 0.043           | 3.2                       | 2.30                               | 10000.0            | ± 15 % | 7.300           | 0.25                      | 0.18                               |
| 68.0                               | ± 15 % | 0.059           | 2.5                       | 2.10                               | 12000.0            | ± 15 % | 9.340           | 0.20                      | 0.17                               |
| 82.0                               | ± 15 % | 0.066           | 2.0                       | 1.90                               | 15000.0            | ± 15 % | 10.700          | 0.20                      | 0.15                               |
| 100.0                              | ± 15 % | 0.084           | 1.6                       | 1.70                               | 18000.0            | ± 15 % | 14.800          | 0.16                      | 0.14                               |
| 120.0                              | ± 15 % | 0.113           | 1.6                       | 1.60                               | 22000.0            | ± 15 % | 18.000          | 0.13                      | 0.12                               |
| 150.0                              | ± 15 % | 0.129           | 1.6                       | 1.40                               | 27000.0            | ± 15 % | 22.700          | 0.13                      | 0.11                               |
| 180.0                              | ± 15 % | 0.150           | 1.6                       | 1.30                               | 33000.0            | ± 15 % | 25.700          | 0.13                      | 0.10                               |
| 220.0                              | ± 15 % | 0.162           | 1.6                       | 1.20                               | 39000.0            | ± 15 % | 29.700          | 0.10                      | 0.09                               |
| 270.0                              | ± 15 % | 0.226           | 1.6                       | 1.10                               | 47000.0            | ± 15 % | 33.700          | 0.10                      | 0.09                               |
| 330.0                              | ± 15 % | 0.257           | 1.6                       | 0.95                               | 56000.0            | ± 15 % | 38.000          | 0.10                      | 0.08                               |
| 390.0                              | ± 15 % | 0.288           | 1.6                       | 0.88                               | 68000.0            | ± 15 % | 52.800          | 0.08                      | 0.07                               |
| 470.0                              | ± 15 % | 0.393           | 1.2                       | 0.80                               | 82000.0            | ± 15 % | 67.300          | 0.07                      | 0.07                               |
| 560.0                              | ± 15 % | 0.504           | 1.0                       | 0.74                               | 100000.0           | ± 15 % | 76.000          | 0.07                      | 0.06                               |

| MARKING       |
|---------------|
| - Vishay Dale |
| - Model       |
| - Value       |
| - Date code   |

| ORDERING INFORMATION |                  |                      |              |                               |
|----------------------|------------------|----------------------|--------------|-------------------------------|
| IHD-1                | 3.9 μH           | ± 15 %               | ER           | e2                            |
| MODEL                | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

| GLOBAL PART NUMBER INFORMATION |              |                  |      |
|--------------------------------|--------------|------------------|------|
| I H D 1                        | E R          | 3 R 9            | L    |
| MODEL                          | PACKING CODE | INDUCTANCE VALUE | TOL. |



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