# High Current, Shielded, Surface Mount Inductors




## FEATURES

- High energy storage
- Low resistance
- Magnetically shielded
- Tape and reel packaging for automatic handling
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition

Pb-free
RoHS COMPLIANT
HALOGEN FREE

## ELECTRICAL SPECIFICATIONS

**Inductance Range:** 1.0 µH to 390.0 µH, tested at 1.0 $V_{RMS}$
**Inductance Tolerance:** 20 %, tighter tolerance available upon request
**Operating Temperature:** - 40 °C to + 125 °C
**Resistance to Solder Heat:** 260 °C for 10 s

## MECHANICAL SPECIFICATIONS

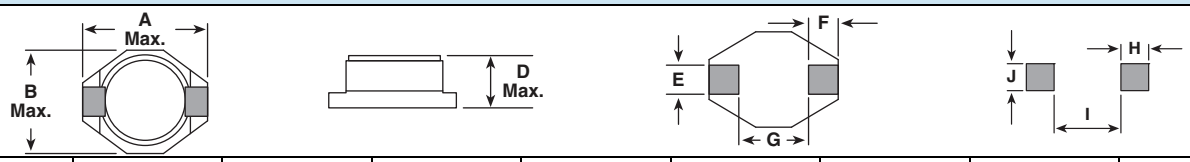
**Core:** Ferrite
**Wire:** Enamelled copper wire
**Base:** LCP
**Terminals:** Nickel bronze
**Adhesive:** Epoxy resin

## STANDARD ELECTRICAL SPECIFICATIONS

| INDUCTANCE (µH) | TOLERANCE | TEST FREQUENCY L (kHz) | DCR MAX. (Ω) | $I_{SAT}$ (A) | $I_{RMS}$ (A) |
|---|---|---|---|---|---|
| 1.0 | ± 20 % | 100 | 0.021 | 5.6 | 5.0 |
| 1.5 | ± 20 % | 100 | 0.022 | 5.2 | 4.5 |
| 2.2 | ± 20 % | 100 | 0.032 | 5.0 | 3.8 |
| 3.3 | ± 20 % | 100 | 0.039 | 3.9 | 3.3 |
| 4.7 | ± 20 % | 100 | 0.054 | 3.2 | 2.7 |
| 6.8 | ± 20 % | 100 | 0.075 | 2.8 | 2.2 |
| 10 | ± 20 % | 100 | 0.101 | 2.4 | 2.0 |
| 15 | ± 20 % | 100 | 0.150 | 2.0 | 1.5 |
| 22 | ± 20 % | 100 | 0.207 | 1.6 | 1.3 |
| 33 | ± 20 % | 100 | 0.334 | 1.4 | 1.1 |
| 47 | ± 20 % | 100 | 0.472 | 1.0 | 0.80 |
| 56 | ± 20 % | 100 | 0.210 | 0.95 | 0.90 |
| 68 | ± 20 % | 100 | 0.340 | 0.90 | 0.82 |
| 82 | ± 20 % | 100 | 0.380 | 0.85 | 0.75 |
| 100 | ± 20 % | 100 | 0.420 | 0.80 | 0.68 |
| 120 | ± 20 % | 100 | 0.460 | 0.70 | 0.60 |
| 150 | ± 20 % | 100 | 0.520 | 0.60 | 0.55 |
| 180 | ± 20 % | 100 | 0.700 | 0.65 | 0.50 |
| 220 | ± 20 % | 100 | 0.800 | 0.50 | 0.45 |
| 270 | ± 20 % | 100 | 1.100 | 0.45 | 0.40 |
| 330 | ± 20 % | 100 | 1.200 | 0.40 | 0.35 |
| 390 | ± 20 % | 100 | 1.400 | 0.35 | 0.33 |

**Notes**
- Inductance drop = 10 % typ. at $I_{SAT}$
- ΔT = 15 °C typ. at $I_{RMS}$

## DIMENSIONS in inches [millimeters]




| A (Max.) | B (Max.) | D (Max.) | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|
| 0.510 [12.95] | 0.370 [9.40] | 0.200 [5.08] | 0.100 [2.54] | 0.100 [2.54] | 0.300 [7.62] | 0.115 [2.92] | 0.290 [7.37] | 0.110 [2.79] |

## DESCRIPTION

| IDCS-5020 | 10 µH | ± 20 % | ER | e3 |
|---|---|---|---|---|
| MODEL | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

## GLOBAL PART NUMBER

| I | D | C | S | 5 | 0 | 2 | 0 | E | R | 1 | 0 | 0 | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRODUCT FAMILY | | | | SIZE | | | | PACKAGE CODE | | INDUCTANCE VALUE | | | INDUCTANCE TOLERANCE |



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