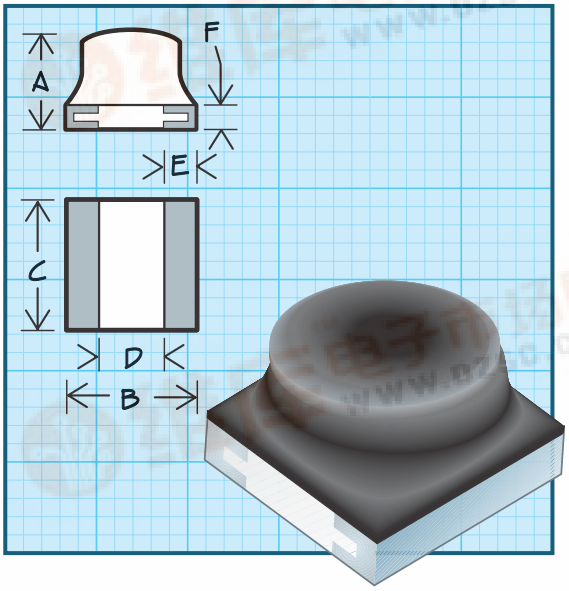
# Series 105R & 108R
# 105 & 108

RoHS Compliant

Traditional First Quality



## Micro i® Chip Inductors




**Military Specifications**
Series 105 MIL-PRF-83446 (Reference)
Series 108 MIL-PRF-83446/8 (Reference)

**Physical Parameters for Series 105**

| | Inches | Millimeters |
|---|---|---|
| A | 0.075 Max. | 1.91 Max. |
| B | 0.100 ± 0.010 | 2.54 ± .25 |
| C | 0.100 ± 0.010 | 2.54 ± .25 |
| D | 0.050 Min. | 1.27 Min. |
| E | 0.015 Min. (Typ.) | 0.38 Min. (Typ.) |
| F | 0.020 Max. (Typ.) | 0.51 Max. (Typ.) |

**Physical Parameters for Series 108**

| | Inches | Millimeters |
|---|---|---|
| A | 0.070 Max. | 1.78 Max. |
| B | 0.100 ± 0.010 | 2.54 ± .254 |
| C | 0.100 ± 0.010 | 2.54 ± .254 |
| D | 0.050 Min. | 1.27 Min. |
| E | 0.025 ± 0.005 (Typ.) | 0.635 ± 0.13 (Typ.) |
| F | 0.020 Max. (Typ.) | 0.51 Max. (Typ.) |

**Weight Max.** (Grams) 0.05

**Current Rating at 90°C Ambient** 35°C Rise

**Operating Temperature Range** –55°C to +125°C

**Maximum Power Dissipation at 90°C** 0.135 Watts

**Mechanical Configuration** Units are epoxy encapsulated. Contact areas for reflow soldering are gold plated per MIL-G-45204 Type-1-Grade A. Internal connections are thermal compression bonded.

**Packaging** Tape & reel (8 mm): 7" reel, 2000 pieces max.; 13"-reel, 8000 pieces max.

*Made in the U.S.A.*

| DASH NUMBER* | MIL DASH # (Reference) | INDUCTANCE (µH) | TOLERANCE | Q MINIMUM | TEST FREQUENCY (MHz) | SRF MINIMUM (MHz) | DC RESISTANCE MAXIMUM (OHMS) | CURRENT RATING MAX. (mA) |
|---|---|---|---|---|---|---|---|---|
| **SERIES 105 IRON CORE** | | | | | | | | |
| -121M | | 0.12 | ± 20% | 40 | 25.0 | 500 | 0.14 | 830 |
| -151M | | 0.15 | ± 20% | 40 | 25.0 | 440 | 0.16 | 775 |
| -181M | | 0.18 | ± 20% | 40 | 25.0 | 405 | 0.19 | 710 |
| -221K | | 0.22 | ± 10% | 40 | 25.0 | 360 | 0.21 | 675 |
| -271K | | 0.27 | ± 10% | 40 | 25.0 | 330 | 0.23 | 650 |
| -331K | | 0.33 | ± 10% | 35 | 25.0 | 280 | 0.25 | 620 |
| -391K | | 0.39 | ± 10% | 35 | 25.0 | 185 | 0.28 | 585 |
| -471K | | 0.47 | ± 10% | 35 | 25.0 | 178 | 0.31 | 555 |
| -561K | | 0.56 | ± 10% | 35 | 25.0 | 163 | 0.45 | 460 |
| -681K | | 0.68 | ± 10% | 35 | 25.0 | 160 | 0.62 | 395 |
| -821K | | 0.82 | ± 10% | 30 | 25.0 | 155 | 0.65 | 385 |
| -102K | | 1.0 | ± 10% | 30 | 25.0 | 130 | 0.73 | 360 |
| -122K | | 1.2 | ± 10% | 25 | 7.9 | 115 | 1.0 | 310 |
| -152K | | 1.5 | ± 10% | 25 | 7.9 | 100 | 1.2 | 280 |
| -182K | | 1.8 | ± 10% | 25 | 7.9 | 90 | 1.5 | 250 |
| -222K | | 2.2 | ± 10% | 25 | 7.9 | 75 | 1.7 | 235 |
| -272K | | 2.7 | ± 10% | 25 | 7.9 | 68 | 2.0 | 220 |
| -332K | | 3.3 | ± 10% | 25 | 7.9 | 62 | 2.2 | 210 |
| -392K | | 3.9 | ± 10% | 25 | 7.9 | 57 | 2.8 | 185 |
| -472K | | 4.7 | ± 10% | 30 | 7.9 | 52 | 3.1 | 175 |
| -562K | | 5.6 | ± 10% | 30 | 7.9 | 47 | 3.3 | 170 |
| -682K | | 6.8 | ± 10% | 30 | 7.9 | 42 | 3.8 | 160 |
| -822K | | 8.2 | ± 10% | 30 | 7.9 | 40 | 5.0 | 135 |
| -103K | | 10.0 | ± 10% | 30 | 7.9 | 38 | 5.6 | 130 |
| **M83446/8– (Reference) SERIES 108 IRON CORE** | | | | | | | | |
| -123K | 87 | 12.0 | ± 10% | 36 | 2.5 | 26.0 | 4.0 | 79 |
| -153K | 88 | 15.0 | ± 10% | 32 | 2.5 | 24.0 | 4.2 | 79 |
| -183K | 89 | 18.0 | ± 10% | 32 | 2.5 | 21.0 | 4.4 | 75 |
| -223K | 90 | 22.0 | ± 10% | 32 | 2.5 | 19.0 | 7.5 | 57 |
| -273K | 91 | 27.0 | ± 10% | 32 | 2.5 | 14.0 | 8.0 | 55 |
| -333K | 92 | 33.0 | ± 10% | 30 | 2.5 | 12.0 | 13.0 | 45 |
| -393K | 93 | 39.0 | ± 10% | 30 | 2.5 | 10.0 | 17.0 | 38 |
| -473K | 94 | 47.0 | ± 10% | 30 | 2.5 | 9.0 | 19.0 | 36 |
| -563K | 95 | 56.0 | ± 10% | 30 | 2.5 | 8.5 | 23.0 | 33 |
| -683K | 96 | 68.0 | ± 10% | 30 | 2.5 | 8.2 | 25.0 | 32 |
| -823K | 97 | 82.0 | ± 10% | 30 | 2.5 | 8.0 | 28.0 | 30 |
| -104K | 98 | 100.0 | ± 10% | 30 | 2.5 | 7.0 | 31.0 | 28 |

**Optional Tolerances: J = 5% H = 3% G = 2% F = 1%**

***Complete part # must include series # PLUS the dash #**

**For further surface finish information, refer to TECHNICAL section of this catalog.**

**Termination Finish Options** (Part # Code)
Gold over Nickel (Standard): As shown.
Tin/Lead over Nickel: Add suffix "S" to part # (e.g., 105-102KS or 108-473KS).
Mil type "A:" Gold over Nickel (Standard)
Mil type "B" or "F:" Tin/Lead (solder) over Nickel.
RoHS type: Order 105R - XXXKS or 108R - XXXKS

**Notes 1)** Designed specifically for reflow soldering and other high temperature processes with metalized edges to exhibit solder fillet. **2)**-Self Resonant Frequency (SRF) Values above 185-MHz for Series 105 are calculated (reference only).



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