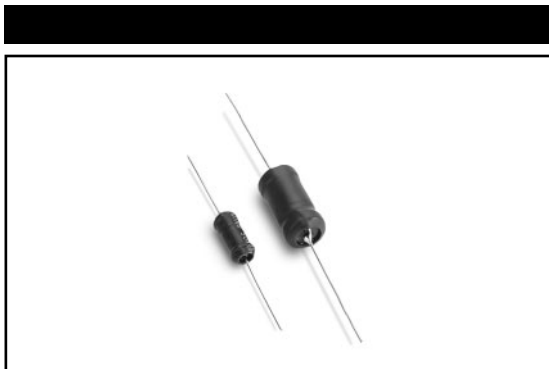


MODEL

HM50 & HM51

Miniature Power Inductors



FEATURES AND BENEFITS

- Low DCR, high current
- High saturation flux density, optimum current handling capability
- Low cost
- Small size axial leads
- Low temperature rise
- Wound ferrite design, insulated with PVC sleeve

APPLICATIONS

- Designed for use with:
 - Linear Technology models LT1073, LT1173
 - National Semiconductor model LM2574
 - Unitrode model UC2575
- Buck or boost, DC to DC power conversion
- SCR and triac controls
- EMI suppression
- Output ripple current filters

ELECTRICAL / ENVIRONMENTAL

| | |
|-----------------------------|--|
| Inductance Range | HM50: 3.9 μ H to 18,000 μ H HM51: 3.9 μ H to 10,000 μ H |
| Standard Tolerance | $\pm 10\%$ |
| Operating Temperature Range | -55°C to +105°C |
| Insulation System | Class B, 130°C |

Specifications subject to change without notice.
Last update: 03/17/03.

SPECIFICATIONS

| Part Number | Inductance Nominal ⁽¹⁾ | DC Resistance | Rated IDC ⁽²⁾ | INCR IDC ⁽³⁾ |
|----------------|--------------------------------------|------------------|-----------------------------|----------------------------|
| | $\mu\text{H} \pm 10\%$ | | Amps | Amps |
| HM50-3R9K | 3.9 | .019 | 3.60 | 7.30 |
| HM50-4R7K | 4.7 | .022 | 3.40 | 6.30 |
| HM50-5R6K | 5.6 | .024 | 3.20 | 5.60 |
| HM50-6R8K | 6.8 | .026 | 3.10 | 5.30 |
| HM50-8R2K | 8.2 | .028 | 3.00 | 4.50 |
| HM50-100K | 10 | .033 | 2.80 | 4.10 |
| HM50-120K | 12 | .037 | 2.60 | 3.60 |
| HM50-150K | 15 | .040 | 2.50 | 3.30 |
| HM50-180K | 18 | .044 | 2.40 | 3.00 |
| HM50-220K | 22 | .050 | 2.23 | 2.70 |
| HM50-270K | 27 | .056 | 2.10 | 2.50 |
| HM50-330K | 33 | .076 | 1.81 | 2.20 |
| HM50-390K | 39 | .094 | 1.63 | 2.00 |
| HM50-470K | 47 | .109 | 1.51 | 1.80 |
| HM50-560K | 56 | .140 | 1.33 | 1.70 |
| HM50-680K | 68 | .131 | 1.31 | 1.50 |
| HM50-820K | 82 | .152 | 1.30 | 1.40 |
| HM50-101K | 100 | .208 | 1.10 | 1.20 |
| HM50-121K | 120 | .283 | 0.94 | 1.10 |
| HM50-151K | 150 | .340 | 0.86 | 1.00 |
| HM50-181K | 180 | .362 | 0.83 | 0.95 |
| HM50-221K | 220 | .430 | 0.76 | 0.86 |
| HM50-271K | 270 | .557 | 0.67 | 0.77 |
| HM50-331K | 330 | .665 | 0.61 | 0.70 |
| HM50-391K | 390 | .772 | 0.57 | 0.64 |
| HM50-471K | 470 | 1.15 | 0.47 | 0.59 |
| HM50-561K | 560 | 1.27 | 0.44 | 0.54 |
| HM50-681K | 680 | 1.61 | 0.40 | 0.49 |
| HM50-821K | 820 | 1.96 | 0.36 | 0.44 |
| HM50-102K | 1000 | 2.30 | 0.33 | 0.40 |
| HM50-122K | 1200 | 2.65 | 0.30 | 0.35 |
| HM50-152K | 1500 | 3.45 | 0.27 | 0.33 |
| HM50-182K | 1800 | 4.03 | 0.25 | 0.29 |
| HM50-222K | 2200 | 4.48 | 0.23 | 0.27 |
| HM50-272K | 2700 | 5.40 | 0.21 | 0.24 |
| HM50-332K | 3300 | 6.56 | 0.20 | 0.22 |
| HM50-392K | 3900 | 8.63 | 0.17 | 0.20 |
| HM50-472K | 4700 | 9.66 | 0.16 | 0.18 |
| HM50-562K | 5600 | 13.9 | 0.13 | .166 |
| HM50-682K | 6800 | 16.3 | 0.12 | .151 |
| HM50-822K | 8200 | 20.8 | 0.11 | .136 |
| HM50-103K | 10000 | 26.4 | 0.10 | .125 |
| HM50-123K | 12000 | 29.9 | 0.09 | .114 |

Notes: (1) Inductance measured at 1kHz without DC current.

(2) The rated DC current is based on an approximate 20°C temperature rise.

(3) The incremental current (INCR I) is the approximate current at which the inductance will be decreased by 5% from its initial (zero DC) value due to saturation.

SPECIFICATIONS

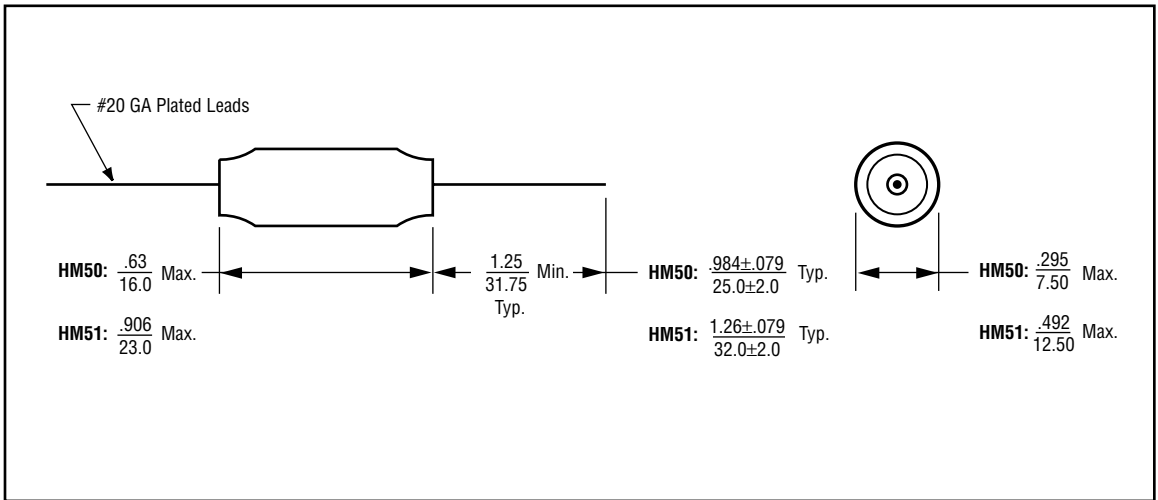
| Part Number | Inductance | DC Resistance | Rated | INCR |
|-------------|-----------------------------------|---------------|----------------------------|----------------------------|
| | Nominal ⁽¹⁾ µH ±10% | | IDC ⁽²⁾ Amps | IDC ⁽³⁾ Amps |
| HM50-153K | 15000 | 42.5 | 0.08 | .098 |
| HM50-183K | 18000 | 48.3 | 0.07 | .091 |
| HM51-3R9K | 3.9 | .007 | 8.40 | 15.5 |
| HM51-4R7K | 4.7 | .008 | 7.90 | 13.9 |
| HM51-5R6K | 5.6 | .011 | 6.70 | 12.6 |
| HM51-6R8K | 6.8 | .011 | 6.70 | 11.6 |
| HM51-8R2K | 8.2 | .013 | 6.20 | 9.89 |
| HM51-100K | 10 | .017 | 5.40 | 8.70 |
| HM51-120K | 12 | .019 | 5.10 | 8.21 |
| HM51-150K | 15 | .022 | 4.70 | 7.34 |
| HM51-180K | 18 | .023 | 4.70 | 6.64 |
| HM51-220K | 22 | .026 | 4.40 | 6.07 |
| HM51-270K | 27 | .027 | 4.30 | 5.36 |
| HM51-330K | 33 | .032 | 4.00 | 4.82 |
| HM51-390K | 39 | .033 | 3.90 | 4.36 |
| HM51-470K | 47 | .035 | 3.80 | 3.98 |
| HM51-560K | 56 | .037 | 3.70 | 3.66 |
| HM51-680K | 68 | .047 | 3.30 | 3.31 |
| HM51-820K | 82 | .060 | 2.90 | 3.10 |
| HM51-101K | 100 | .090 | 2.30 | 2.79 |
| HM51-121K | 120 | .113 | 2.10 | 2.54 |
| HM51-151K | 150 | .129 | 2.00 | 2.22 |
| HM51-181K | 180 | .150 | 1.80 | 1.98 |
| HM51-221K | 220 | .162 | 1.76 | 1.89 |
| HM51-271K | 270 | .208 | 1.55 | 1.63 |
| HM51-331K | 330 | .212 | 1.53 | 1.51 |
| HM51-391K | 390 | .281 | 1.33 | 1.39 |
| HM51-471K | 470 | .380 | 1.15 | 1.24 |
| HM51-561K | 560 | .420 | 1.10 | 1.17 |
| HM51-681K | 680 | .548 | 0.96 | 1.05 |
| HM51-821K | 820 | .655 | 0.87 | 0.97 |
| HM51-102K | 1,000 | .844 | 0.77 | 0.87 |
| HM51-122K | 1,200 | 1.04 | 0.70 | 0.79 |
| HM51-152K | 1,500 | 1.18 | 0.65 | 0.70 |
| HM51-182K | 1,800 | 1.56 | 0.57 | 0.64 |
| HM51-222K | 2,200 | 2.00 | 0.50 | 0.58 |
| HM51-272K | 2,700 | 2.06 | 0.50 | 0.53 |
| HM51-332K | 3,300 | 2.63 | 0.44 | 0.47 |
| HM51-392K | 3,900 | 2.75 | 0.43 | 0.43 |
| HM51-472K | 4,700 | 3.19 | 0.40 | 0.39 |
| HM51-562K | 5,600 | 3.92 | 0.36 | 0.359 |
| HM51-682K | 6,800 | 5.69 | 0.30 | 0.322 |
| HM51-822K | 8,200 | 6.32 | 0.28 | 0.293 |
| HM51-103K | 10,000 | 7.30 | 0.26 | 0.266 |

Notes: (1) Inductance measured at 1kHz without DC current.

(2) The rated DC current is based on an approximate 20°C temperature rise.

(3) The incremental current (INCR I) is the approximate current at which the inductance will be decreased by 5% from its initial (zero DC) value due to saturation.

OUTLINE DIMENSIONS (Inch/mm)



ORDERING INFORMATION

Model Series **HM50** **330** **K** Inductance Tolerance:
 Inductance Code: _____
 J = 5%
 K = 10%
 M = 20%

First 2 digits are significant. Last digit denotes the number of trailing zeros. Values below 10μH, "R" denotes the decimal point.