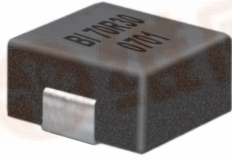


Electrical / Environmental

HM69



High Current Low Profile Surface Mount Inductors

- Operating Temperature Range -40°C to +125°C
- Temperature Rise, Maximum 40°C
- Ambient Temperature, Maximum 80°C
- Insulation System Class F, 155°C

Specifications

| Part Number | Inductance 100kHz, 0.1V | | | DCR ⁽¹⁾ (mΩ) | | I _{rated} ⁽²⁾ @ 25°C (Adc) | Heating Current ⁽³⁾ (A) | Core Loss ⁽⁴⁾ Factor | |
|---------------|-----------------------------|--------------------------------------|--------------------------------------|----------------------------|------|------------------------------------------------------|---------------------------------------|------------------------------------|-----------|
| | @ 0 Adc (nH±20%) Typ. | @ I _{rated} (nH) Min. | @ I _{rated} (nH) Typ. | Typ. | Max. | | | K1 | K2 |
| | HM69-10R025LF | 25 | 18 | 25 | 0.27 | 0.33 | 42 | 22 | 3.847E-14 |
| HM69-20R050LF | 50 | 28 | 36 | 0.20 | 0.24 | 70 | 35 | 1.074E-13 | 50.117 |
| HM69-30R070LF | 70 | 50 | 67 | 0.40 | 0.48 | 46 | 25 | 1.074E-13 | 70.164 |
| HM69-40R10LF | 100 | 60 | 75 | 0.31 | 0.39 | 28 | 25 | 7.124E-14 | 156.891 |
| HM69-50R10LF | 100 | 72 | 95 | 0.40 | 0.48 | 29 | 24 | 8.733E-14 | 127.990 |
| HM69-50R15LF | 150 | 96 | 120 | 0.40 | 0.48 | 18 | 24 | 8.733E-14 | 191.986 |
| HM69-55R10LF | 100 | 64 | 80 | 0.45 | 0.56 | 45 | 25 | 1.337E-13 | 96.541 |
| HM69-55R20LF | 200 | 140 | 175 | 0.45 | 0.56 | 21 | 25 | 1.337E-13 | 160.902 |
| HM69-60R10LF | 100 | 69 | 87 | 0.42 | 0.50 | 68 | 31 | 2.311E-13 | 52.336 |
| HM69-60R15LF | 150 | 104 | 130 | 0.42 | 0.50 | 48 | 31 | 2.311E-13 | 78.503 |
| HM69-60R20LF | 200 | 144 | 180 | 0.42 | 0.50 | 31 | 31 | 2.311E-13 | 104.671 |
| HM69-70R30LF | 300 | 200 | 250 | 0.17 | 0.20 | 37 | 70 | 6.784E-13 | 98.921 |
| HM69-75R20LF | 200 | 150 | 175 | 0.40 | 0.50 | 20 | 40 | 3.559E-13 | 134.203 |
| HM69-80R30LF | 300 | 216 | 285 | 0.17 | 0.25 | 40 | 76 | 9.107E-13 | 72.674 |

- Notes:
- (1) DC resistance is measured at 25°C.
 - (2) The rated current (I_{rated}) is the current at which the inductance will be decreased by 20% from its initial (zero DC) value.
 - (3) The heating current is the DC current, which causes the component temperature to increase by approximately 40°C. This current is determined by soldering the component on a typical application PCB, and then apply the device for 30 minutes.
 - (4) Core Loss approximation is based on published core data:
 $Core\ Loss = K1 * (f)^{1.77} * (K2\Delta I)^{2.21}$
 Where: core loss in watt f = switching frequency in kHz
 K1 and K2 = core loss factor ΔI = delta I across the component in Amp.
 K2ΔI = one half of the peak to peak flux density across the component in Gauss

Packaging

Standard: Embossed Tape & Reel

| | | |
|-------|-----------|--------------------------------|
| Reel: | Diameter: | = 13" (330.2mm) |
| | Capacity: | Case size 10,40 = 1000 Units |
| | | Case size 20,30,60 = 800 Units |
| | | Case size 50,55,75 = 500 Units |
| | | Case size 70,80 = 350 Units |

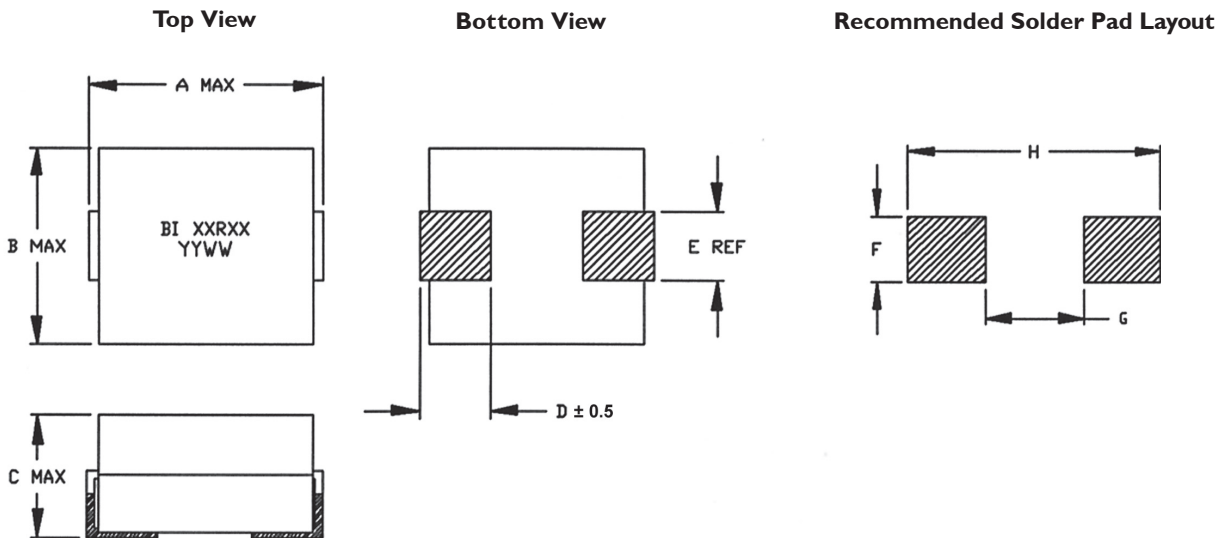
Ordering Information



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

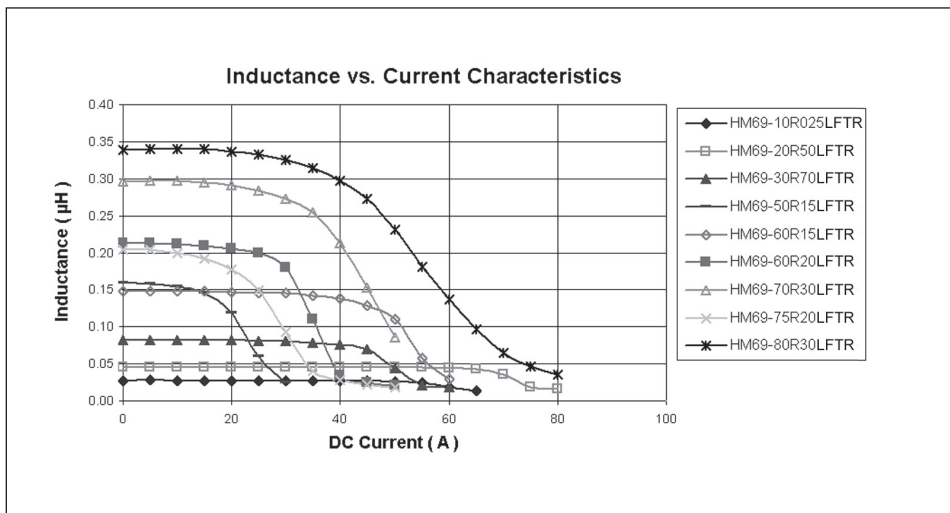


Outline Dimensions (mm)



| Case size | A | B | C | D | E | F | G | H |
|-----------|------|------|------|------|------|------|------|------|
| 10 | 6.00 | 5.00 | 3.00 | 1.00 | 1.50 | 1.60 | 2.00 | 5.80 |
| 20 | 7.50 | 6.50 | 5.00 | 1.50 | 2.95 | 3.00 | 2.50 | 7.50 |
| 30 | 7.00 | 7.00 | 5.00 | 1.50 | 2.30 | 2.50 | 2.50 | 7.50 |
| 40 | 7.01 | 6.35 | 3.30 | 1.50 | 2.85 | 3.20 | 2.50 | 7.50 |
| 50 | 8.60 | 6.30 | 3.30 | 1.50 | 2.85 | 3.20 | 2.50 | 9.00 |
| 55 | 8.60 | 6.30 | 4.80 | 1.50 | 2.85 | 3.20 | 2.50 | 9.00 |
| 60 | 10.2 | 7.00 | 5.10 | 1.50 | 2.50 | 2.80 | 5.50 | 10.5 |
| 70 | 13.5 | 13.0 | 6.80 | 3.00 | 5.00 | 5.30 | 5.50 | 13.5 |
| 75 | 13.5 | 13.0 | 3.50 | 2.00 | 2.50 | 3.20 | 7.00 | 13.5 |
| 80 | 13.8 | 13.0 | 8.20 | 2.00 | 5.00 | 5.30 | 5.50 | 13.8 |

Electrical Characteristics @ 25°C



Electrical Characteristics @ 25 °C (Cont'd)

