

## High Current Low Profile Surface Mount Inductors

### Model HM69

#### Features and Benefits

- Operating Temperature Range -40°C to +125°C
- Temperature Rise, Maximum 40°C
- Operating Frequency Up to 3MHz
- RoHS Compliant



### Specifications

| Part Number   | Inductance<br>100kHz, 0.1V |                              |      | DCR <sup>(1)</sup><br>(mΩ) |      | I <sub>rated</sub> <sup>(2)</sup><br>@ 25°C<br>(A)dc | Heating<br>Current <sup>(3)</sup><br>(A) | Core Loss <sup>(4)</sup><br>Factor |         |
|---------------|----------------------------|------------------------------|------|----------------------------|------|--|--|------------------------------------|---------|
|               | @ 0 Adc<br>(nH ± 20%)      | @ I <sub>rated</sub><br>(nH) |      | Min.                       | Typ. |  |  | K1                                 | K2      |
|               | Typ.                       | Min.                         | Typ. |                            |      |  |  |                                    |         |
| HM69-10R025LF | 25                         | 18                           | 25   | 0.27                       | 0.33 | 42   | 22                                       | 3.847E-14                          | 59.444  |
| 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<sub>rated</sub>) 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 applying the device for 30 minutes.  
 (4) Core Loss approximation is based on published core data:  
 Core Loss = K1 \* (f)<sup>1.77</sup> \* (K2ΔI)<sup>2.21</sup>  
 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

| Embossed Tape & Reel |  |
|----------------------|--|
| Standard             | 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            |

#### General Note

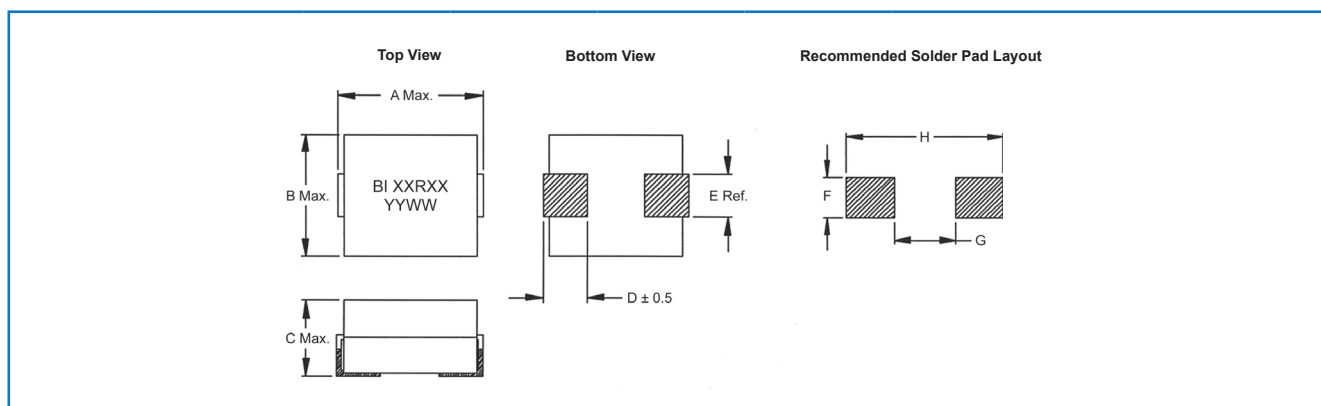
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Model HM69

### Ordering Information

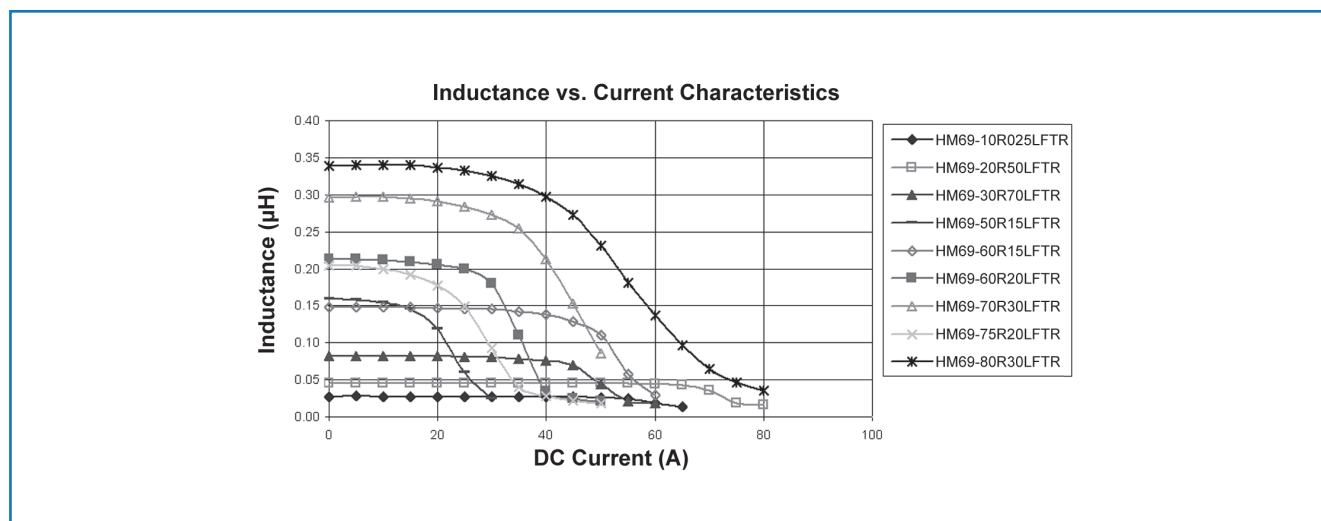
Model Series HM69 - 50 R10 LF TR13  
 Case Size : \_\_\_\_\_  
 Inductance Code: \_\_\_\_\_  
 First 2 digits are significant.  
 Last digit denotes the number of trailing zeros.  
 For values below 10 $\mu$ H, "R" denotes the decimal point.  
 TR - Tape & Reel Packing  
 13 - 13" reel  
 Lead-Free

### 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 | 2.3  | 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

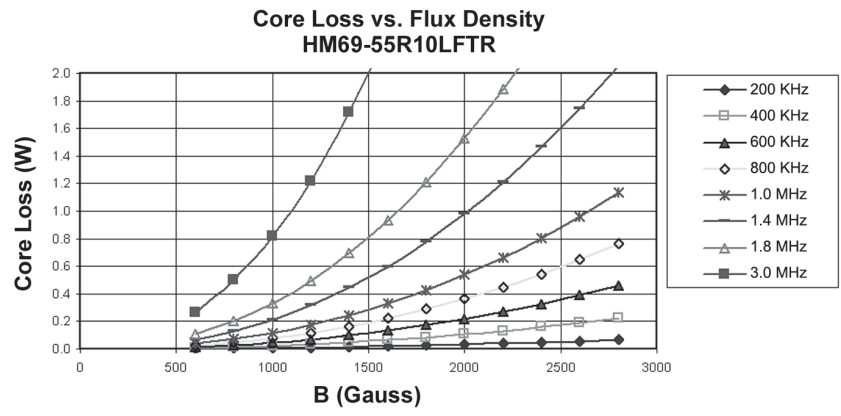
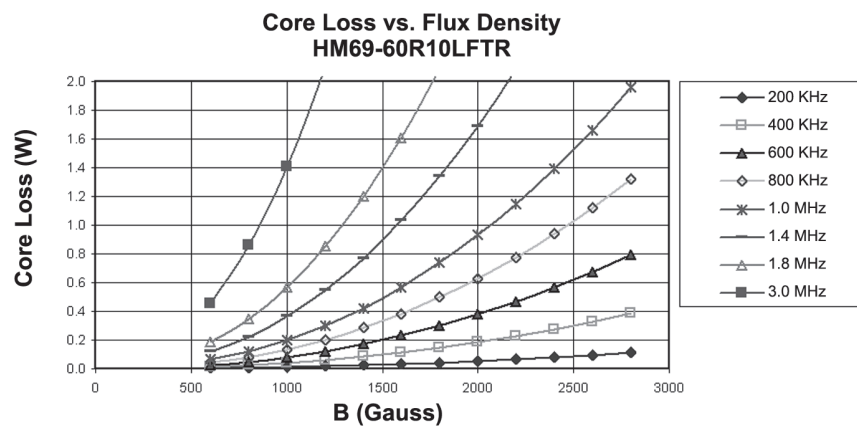
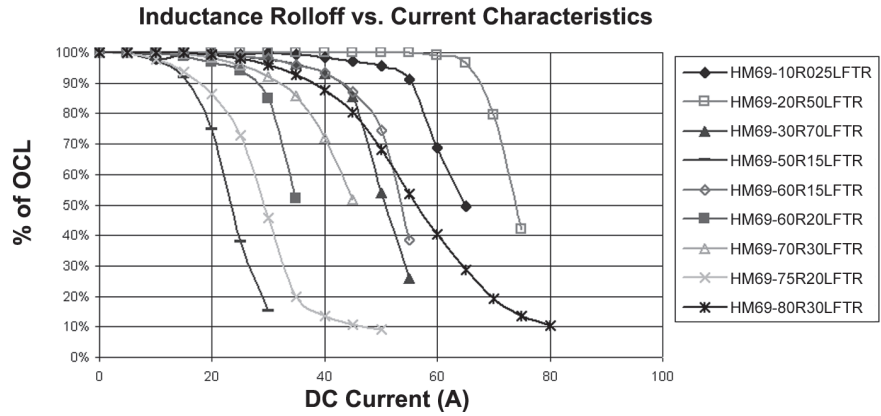


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Electrical Characteristics @ 25°C (Cont'd)



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