

Electrical / Environmental

- Operating Temperature Range -40°C to +125°C
- Temperature Rise, Maximum 40°C
- Ambient Temperature, Maximum 80°C
- Insulation System Class F, 155°C
- Operating Frequency Up to 3MHz

High Current Low Profile Surface Mount Inductors



Specifications

Part Number	Inductance 100kHz, 0.1V			DCR ⁽¹⁾ (mΩ)		I _{rated} ⁽²⁾ @ 25°C (Adc)	Heating Current ⁽³⁾ (A)	Core Loss ⁽⁴⁾	
	@ 0 Adc (nH ± 20%)	@ I _{rated} (nH)	Factor						
	Typ.	Min.	Typ.	Typ.	Max.	(Adc)	(A)	K1	K2
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_{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 applying the device for 30 minutes.

(4) Core Loss approximation is based on published core data:

$$\text{Core Loss} = K1 * (f)^{1.77} * (K2\Delta I)^{2.21}$$

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

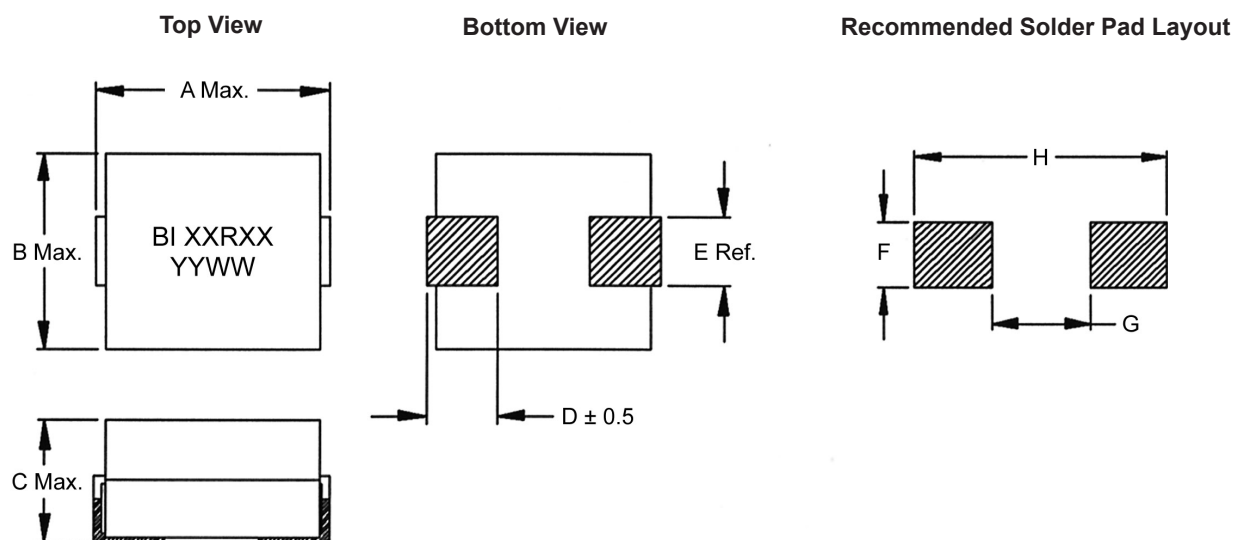
Standard: Embossed Tape & Reel

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

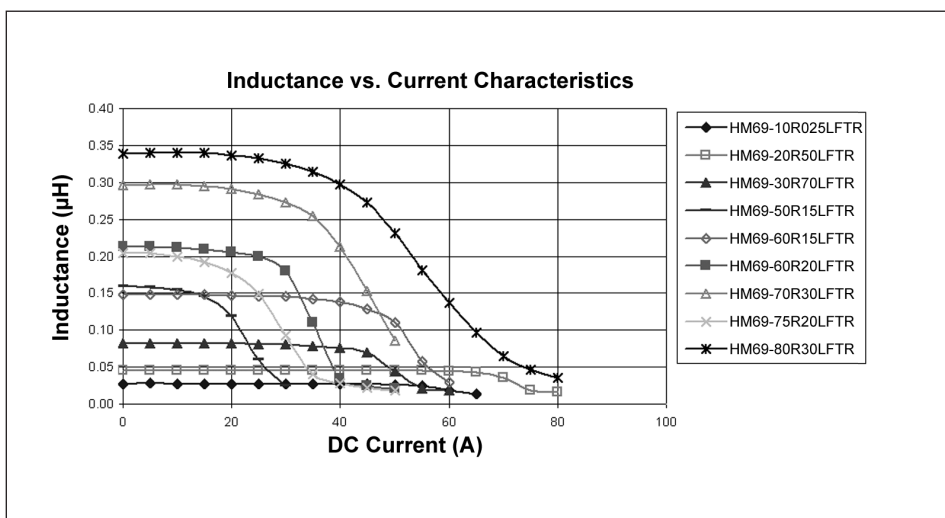
Model Series	HM69	-	50	R10	LF	TR13	TR - Tape & Reel Packing
Case Size							13 - 13" reel
Inductance Code:							Lead-Free
	First 2 digits are significant.						
	Last digit denotes the number of trailing zeros.						
	For values below 10μH, "R" denotes the decimal point.						

Outline Dimensions (mm)



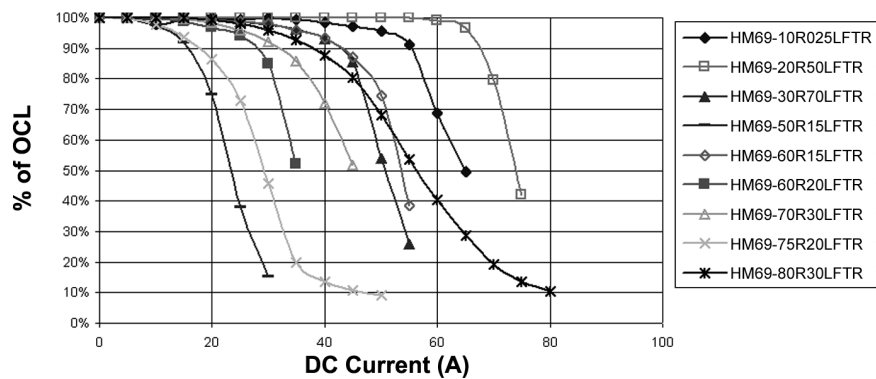
Case Size	A	B	C	D	E	F	G	H
10	6.00	5.00	3.00	1.00	1.50	1.60	2.00	5.80
20	7.50	6.50	5.00	1.50	2.95	3.00	2.50	7.50
30	7.00	7.00	5.00	1.50	2.30	2.50	2.50	7.50
40	7.01	6.35	3.30	1.50	2.85	3.20	2.50	7.50
50	8.60	6.30	3.30	1.50	2.85	3.20	2.50	9.00
55	8.60	6.30	4.80	1.50	2.85	3.20	2.50	9.00
60	10.2	7.00	5.10	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

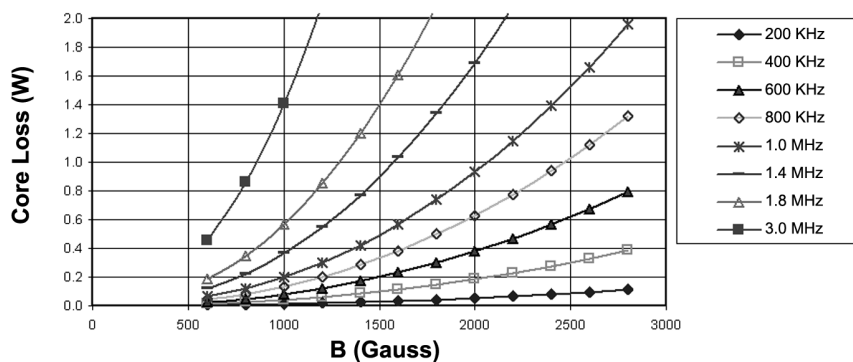


Electrical Characteristics @ 25°C (Cont'd)

Inductance Rolloff vs. Current Characteristics



**Core Loss vs. Flux Density
HM69-60R10LFTR**



**Core Loss vs. Flux Density
HM69-55R10LFTR**

