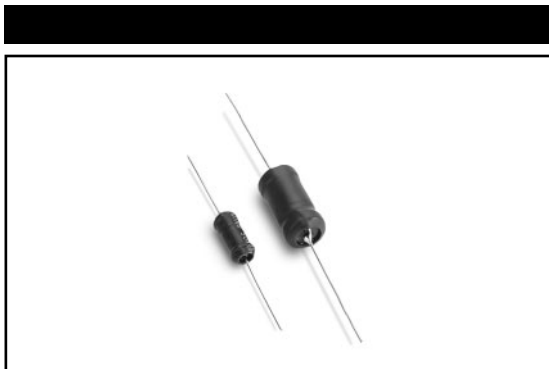


# MODEL

## 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	<b>HM50:</b> 3.9 $\mu$ H to 18,000 $\mu$ H <b>HM51:</b> 3.9 $\mu$ H to 10,000 $\mu$ 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 <sup>(1)</sup>	DC Resistance	Rated IDC <sup>(2)</sup>	INCR IDC <sup>(3)</sup>
	$\mu\text{H} \pm 10\%$		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

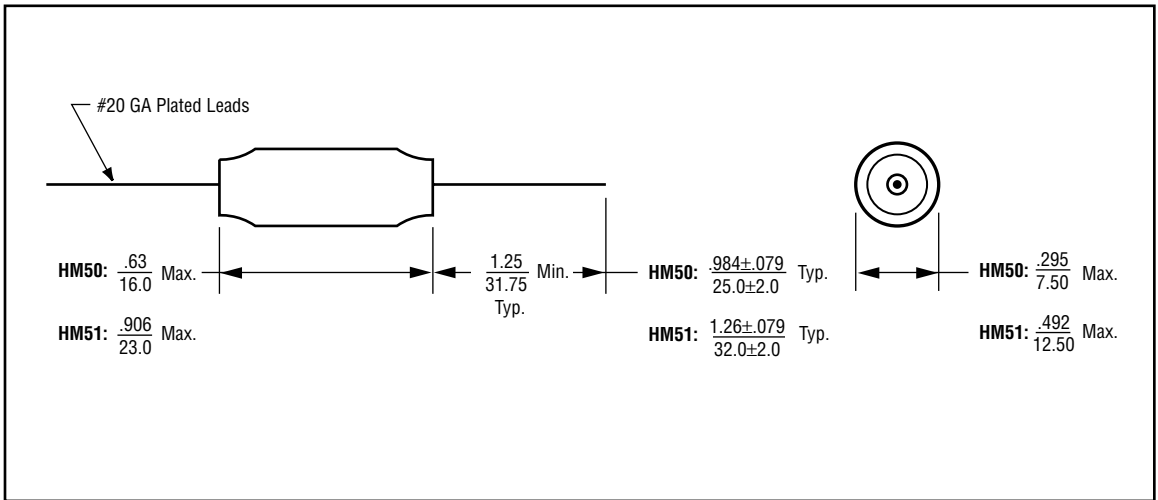
Part Number	Inductance	DC Resistance	Rated	INCR
	Nominal <sup>(1)</sup> µH ±10%		IDC <sup>(2)</sup> Amps	IDC <sup>(3)</sup> Amps
HM50-153K	15000	42.5	0.08	.098
HM50-183K	18000	48.3	0.07	.091
HM51-3R9K	3.9	.007	8.40	15.5
HM51-4R7K	4.7	.008	7.90	13.9
HM51-5R6K	5.6	.011	6.70	12.6
HM51-6R8K	6.8	.011	6.70	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: ————  
 First 2 digits are significant. Last digit denotes the number of trailing zeros. Values below 10μH, "R" denotes the decimal point.

J = 5%  
 K = 10%  
 M = 20%