

# MODEL HM77 SERIES

## Low Profile

## Surface Mount Inductors



### FEATURES AND BENEFITS

- High performance low loss powder iron core is excellent for high frequency applications
- Low profile, designed for machine placement
- Compatible with vapor phase and infrared reflow soldering
- Custom designs available

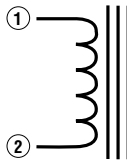
### APPLICATIONS

- Laptop and notebook computers
- DC/DC converter in distributed power system
- Output ripple current filter

### ELECTRICAL / ENVIRONMENTAL

Insulation Resistance, Minimum	100 Megohms
Operating Temperature Range	-40°C to +130°C
Ambient Temperature, Maximum	80°C
Insulation System	Class B, 130°C
Temperature Rise, Maximum	50°C

### SCHEMATIC



Specifications subject to change without notice.  
Last Update: 04/28/2003.

## SPECIFICATIONS

Part Number	Operating Values			Control Values <sup>(3)</sup>			
	$L_{DC}$ $\mu H$ <sup>(1)</sup>	$I_{DC}$ Amps	$ET_{op}$ V- $\mu S$ <sup>(2)</sup>	Case Size	L w/o DC $L_0$ $\mu H \pm 20\%$	DC Resistance m $\Omega$ , Nom.	DC Resistance m $\Omega$ Max.
	HM77-10001	1.01	3.40	0.532	1	1.10	11.00
HM77-20001	6.20	1.40	1.33	1	7.00	60.30	70
HM77-30001	17.6	1.00	2.40	1	22.7	109.00	125
HM77-40002	3.80	4.80	1.76	2	5.20	17.0	19.1
HM77-50002	9.40	2.80	2.70	2	12.3	37.80	43.4
HM77-60002	29.7	1.40	4.60	2	35.3	141.00	166
HM77-70002	114	0.94	10	2	167	330.00	380
HM77-80003	2.50	8.00	1.77	3	3.80	7.20	8.30
HM77-90003	5.10	5.40	2.51	3	7.50	14.30	17.7
HM77-10003	16.2	2.70	4.29	3	21.9	54.70	63
HM77-11003	58.1	1.30	7.83	3	73	233.00	290
HM77-12003	192	0.90	15.7	3	292	472.00	560
HM77-13003	383	0.72	23.5	3	672	750.00	862
HM77-14004	0.91	13.3	1.035	4	1.25	4.56	5.70
HM77-15004	1.32	11.5	1.33	4	2.10	4.56	5.70
HM77-16004	4.90	7.80	3.04	4	7.90	10.50	12.4
HM77-17004	9.00	5.50	4.06	4	14	19.30	22.3
HM77-18004	29.1	2.70	6.90	4	40.5	75.80	85
HM77-19004	645	0.74	36.5	4	1134	1040	1250
HM77-20005	1.75	10.9	1.83	5	2.80	5.68	6.90
HM77-21005	2.50	11.4	2.23	5	4.20	6.19	7.50
HM77-22006	2.03	13	3.30	6	2.70	5.60	6.80
HM77-23006	3.50	12.4	3.13	6	6.50	7.54	8.7
HM77-24006	4.70	10.4	3.58	6	8.40	8.30	10.0
HM77-25006	9.30	7.20	4.92	6	16	16.3	18.7
HM77-26006	16.1	5.10	6.27	6	25.9	30.3	32
HM77-27006	50	2.60	10.5	6	72.9	115	130
HM77-28006	1070	0.710	54.4	6	1950	1480	1700
HM77-29006	68	3.00	9.50	6	122	85	102
HM77-30004	33	3.0	9.50	4	48	48.5	59
HM77-31007	2.5	11.4	2.23	7	4.20	5.20	6.20
HM77-32007	1.68	13.9	1.83	7	2.80	3.60	4.0
HM77-33010	5.2	15.4	5.21	10	10.5	6.20	7.40
HM77-34010	77	2.7	52.8 <sup>(4)</sup>	10	84.6	90	110.0
HM77-35010	38	3.0	29.7 <sup>(4)</sup>	10	49	50	70.0
HM77-36010	114	2.22	62.7 <sup>(4)</sup>	10	121	100	120.0
HM77-37010	250	1.50	72.6 <sup>(5)</sup>	10	275	250	290.0
HM77-38010	168	1.81	75.9 <sup>(5)</sup>	10	159	190	220.0
HM77-39010	53	3.00	42.9 <sup>(5)</sup>	10	52	80	100.0

Notes: (1) Inductance values are rated at -40°C to +130°C operating temperature range with rated DC current flowing and the operating  $ET_{op}$  across the inductor.

(2)  $ET_{op}$  is rated at 500 kHz except where designated otherwise.

(3) The control values of inductance are measured at the operating flux density equal or less than 10 gauss and without DC current.

(4)  $ET_{op}$  is rated at 250 kHz.

(5)  $ET_{op}$  is rated at 150 kHz.

**OUTLINE DIMENSIONS (Inch/mm)**

Figure 1

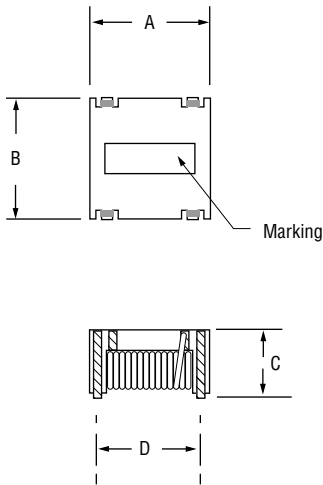


Figure 2

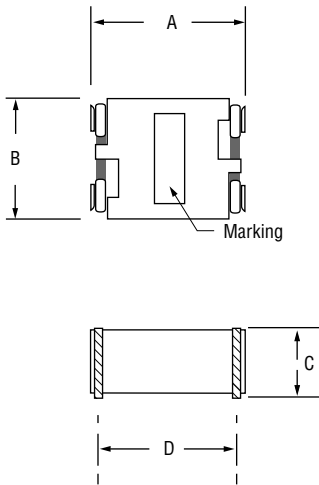
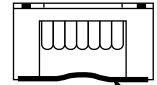
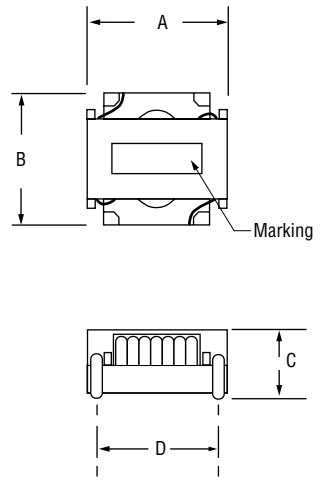


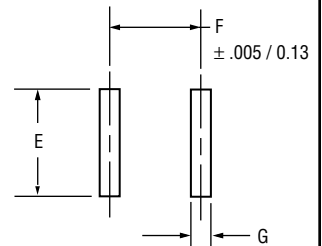
Figure 3



.005 / 0.13  
Coplanarity  
measured  
at 4 points.

Case Size	A	B	C	D	E	F	G	Tube Capacity	Reel Capacity	Figure
1	.340 8.64	.340 8.64	.250 6.35	.260 6.60	.330 8.38	.270 6.86	.060 1.52	60	500	1
2	.447 11.35	.447 11.35	.350 8.89	.350 8.89	.425 10.80	.360 9.14	.060 1.52	50	350	1
3	.571 14.50	.571 14.50	.350 8.89	.450 11.43	.550 13.97	.460 11.68	.100 2.54	35	350	2
4	.625 15.88	.600 15.24	.360 9.14	.500 12.70	.580 14.73	.510 12.95	.100 2.54	37	200	2
5	.725 18.40	.585 14.90	.360 9.14	.610 15.50	.580 14.73	.610 15.50	.100 2.54	37	200	2
6	.805 20.40	.710 18.03	.445 11.30	.680 17.27	.690 17.53	.690 17.53	.100 2.54	30	150	2
7	.669 17.00	.669 17.00	.400 10.16	.560 14.22	.665 16.89	.560 14.22	.100 2.54	35	N/A	2
10	.945 24.00	.965 24.50	.394 10.00	.820 20.83	.950 24.13	.861 21.08	.110 2.80	23	N/A	3

**Recommended Solder Pad Layout**



**ORDERING INFORMATION**

