

# MODEL HM76 SERIES

## Drum Core, Space Efficient

## High Performance

## Surface Mount Inductors

Inductance Range: 1 to 1,000 $\mu$ H  
 Rated Current: Up to 15 Amps



### FEATURES

- **High performance, high current capacities** – Meets today's circuit demands for compact size and current requirements
- **Low core loss, excellent for high frequency applications** – Designed for the latest clock speeds
- **Low profile, designed for machine placement** – Easily incorporated into volume production
- **Compatible with vapor phase and infrared reflow soldering** – No special handling necessary
- **Wide range of standard values** – Special values available
- **1:1 coupled inductors are available in Model HM76-40xxx** – Excellent for circuit isolation (Note 3 & 4)

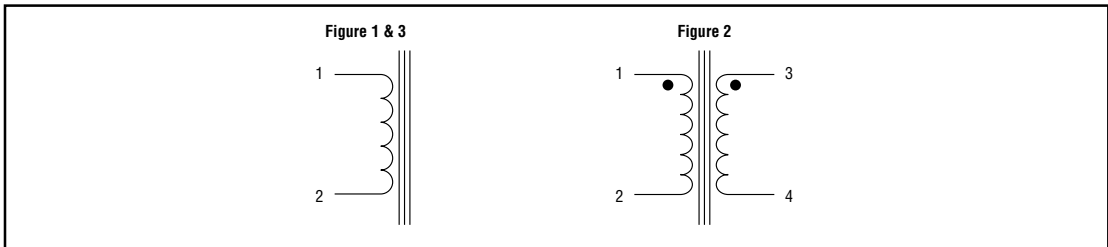
### APPLICATIONS

- Note book computers, PDA's
- DC/DC converters for hand held equipment
- Battery charging circuits
- EMI filters
- Inductor for general purpose
- Ideal for high current, space limited designs

### ELECTRICAL

Operating/Storage Temperature Range	-40°C to +85°C
Insulation System	Class B, 130°C
Temperature Rise, Maximum	40°C

### SCHEMATICS



Specifications subject to change without notice.

**SPECIFICATIONS - CASE SIZE 10 AND 20**

Part Number (Note 5)	Inductance $\mu\text{H} \pm 20\%$ (Note 1)	DC Resistance @ 25°C $\Omega$ Max (Note 3)	Rated Current Amps (Note 2, 4)	Figure
<b>HM76-101R0 J</b>	1.0	0.03	2.90	1
HM76-101R5 J	1.5	0.05	2.80	1
<b>HM76-102R2 J</b>	2.2	0.06	2.40	1
HM76-103R3 J	3.3	0.09	2.00	1
<b>HM76-104R7 J</b>	4.7	0.12	1.50	1
HM76-106R8 J	6.8	0.17	1.30	1
<b>HM76-10100 J</b>	10	0.22	1.00	1
HM76-10150 J	15	0.30	0.80	1
<b>HM76-10220 J</b>	22	0.43	0.70	1
HM76-10330 J	33	0.69	0.57	1
<b>HM76-10470 J</b>	47	0.92	0.46	1
HM76-10680 J	68	1.39	0.37	1
<b>HM76-10101 J</b>	100	1.98	0.28	1
HM76-10151 J	150	3.08	0.22	1
HM76-10221 J	220	4.47	0.18	1
<b>HM76-10331 J</b>	330	6.90	0.15	1
HM76-10471 J	470	11.55	0.12	1
<b>HM76-20100 J or G</b>	10	0.07	2.00	1 or 3
HM76-20150 J or G	15	0.09	1.50	1 or 3
<b>HM76-20220 J or G</b>	22	0.15	1.30	1 or 3
HM76-20330 J or G	33	0.21	1.10	1 or 3
<b>HM76-20470 J or G</b>	47	0.31	0.80	1 or 3
HM76-20680 J or G	68	0.42	0.70	1 or 3
<b>HM76-20101 J or G</b>	100	0.58	0.60	1 or 3
HM76-20151 J or G	150	0.89	0.50	1 or 3
<b>HM76-20221 J or G</b>	220	1.30	0.40	1 or 3
HM76-20331 J or G	330	2.00	0.30	1 or 3
<b>HM76-20471 J or G</b>	470	2.50	0.20	1 or 3
HM76-20681 J or G	680	3.50	0.10	1 or 3
HM76-20102 J or G	1,000	6.00	0.05	1 or 3

Notes: 1. Inductance measured at 100KHz, 0.1 Vrms, without DC current.

2. Rated DC current at which inductance will be decreased by 10% from its initial value or the DC current at which  $\Delta T = 40^\circ\text{C}$ , whichever is smaller.

3. Resistance measured with both windings conducted in parallel (case size 40 only).

4. Rated current will be decreased by 50% when parts are connected as coupled inductors.

5. Part numbers which appear in bold print are standard items and generally available from factory stock.

**SPECIFICATIONS - CASE SIZE 30 AND 40**

Part Number (Note 5)	Inductance $\mu\text{H} \pm 20\%$ (Note 1)	DC Resistance @ 25°C $\Omega$ Max (Note 3)	Rated Current Amps (Note 2, 4)	Figure
<b>HM76-301R0 J or G</b>	1.0	0.01	8.50	1 or 3
HM76-301R5 J or G	1.5	0.01	7.90	1 or 3
HM76-302R2 J or G	2.2	0.02	7.40	1 or 3
<b>HM76-303R3 J or G</b>	3.3	0.02	6.60	1 or 3
<b>HM76-304R7 J or G</b>	4.7	0.02	6.00	1 or 3
HM76-306R8 J or G	6.8	0.03	5.20	1 or 3
HM76-308R2 J or G	8.2	0.03	5.00	1 or 3
<b>HM76-30100 J or G</b>	10	0.04	4.60	1 or 3
HM76-30150 J or G	15	0.05	3.70	1 or 3
<b>HM76-30220 J or G</b>	22	0.07	3.10	1 or 3
<b>HM76-30330 J or G</b>	33	0.11	2.50	1 or 3
HM76-30470 J or G	47	0.16	2.00	1 or 3
<b>HM76-30680 J or G</b>	68	0.20	1.80	1 or 3
HM76-30820 J or G	82	0.24	1.58	1 or 3
<b>HM76-30101 J or G</b>	100	0.30	1.50	1 or 3
HM76-30151 J or G	150	0.44	1.20	1 or 3
<b>HM76-30221 J or G</b>	220	0.64	1.00	1 or 3
<b>HM76-30331 J or G</b>	330	1.00	0.80	1 or 3
HM76-30471 J or G	470	1.50	0.50	1 or 3
<b>HM76-30681 J or G</b>	680	2.20	0.40	1 or 3
<b>HM76-30102 J or G</b>	1,000	3.15	0.30	1 or 3
<b>HM76-403R3 J</b>	3.3	0.01	9.80	2
HM76-404R7 J	4.7	0.01	9.30	2
<b>HM76-406R8 J</b>	6.8	0.02	7.70	2
HM76-408R2 J	8.2	0.02	7.00	2
<b>HM76-40100 J</b>	10	0.02	6.50	2
HM76-40150 J	15	0.03	5.30	2
HM76-40220 J	22	0.04	4.40	2
<b>HM76-40330 J</b>	33	0.06	3.50	2
HM76-40470 J	47	0.07	3.00	2
<b>HM76-40680 J</b>	68	0.11	2.50	2
HM76-40820 J	82	0.12	2.20	2
<b>HM76-40101 J</b>	100	0.15	2.00	2
HM76-40151 J	150	0.22	1.70	2
HM76-40221 J	220	0.33	1.30	2
<b>HM76-40331 J</b>	330	0.45	1.10	2
HM76-40471 J	470	0.70	0.93	2
HM76-40681 J	680	1.00	0.78	2
<b>HM76-40102 J</b>	1,000	1.45	0.65	2

- Notes: 1. Inductance measured at 100KHz, 0.1 Vrms, without DC current.  
 2. Rated DC current at which inductance will be decreased by 10% from its initial value or the DC current at which  $\Delta T = 40^\circ\text{C}$ , whichever is smaller.  
 3. Resistance measured with both windings conducted in parallel (case size 40 only).  
 4. Rated current will be decreased by 50% when parts are connected as coupled inductors.  
 5. Part numbers which appear in bold print are standard items and generally available from factory stock.



**SPECIFICATIONS - CASE SIZE 50**

Part Number (Note 5)	Inductance $\mu\text{H} \pm 20\%$ (Note 1)	DC Resistance @ 25°C $\Omega$ Max (Note 3)	Rated Current Amps (Note 2, 4)	Figure
<b>HM76-501R0 J or G</b>	1.0	0.003	15.0	1 or 3
HM76-502R2 J or G	2.2	0.006	12.0	1 or 3
<b>HM76-503R3 J or G</b>	3.3	0.008	9.80	1 or 3
HM76-505R6 J or G	5.6	0.010	7.50	1 or 3
<b>HM76-50100 J or G</b>	10	0.023	6.00	1 or 3
HM76-50150 J or G	15	0.035	4.50	1 or 3
<b>HM76-50220 J or G</b>	22	0.045	4.00	1 or 3
HM76-50330 J or G	33	0.075	3.00	1 or 3
<b>HM76-50470 J or G</b>	47	0.096	2.60	1 or 3
HM76-50680 J or G	68	0.140	2.30	1 or 3
<b>HM76-50101 J or G</b>	100	0.190	1.70	1 or 3
HM76-50151 J or G	150	0.290	1.50	1 or 3
<b>HM76-50221 J or G</b>	220	0.410	1.20	1 or 3
HM76-50331 J or G	330	0.540	1.00	1 or 3
HM76-50471 J or G	470	0.800	0.83	1 or 3
<b>HM76-50681 J or G</b>	680	1.150	0.72	1 or 3
HM76-50102 J or G	1,000	1.800	0.56	1 or 3

Notes: 1. Inductance measured at 100KHz, 0.1 Vrms, without DC current.

2. Rated DC current at which inductance will be decreased by 10% from its initial value or the DC current at which  $\Delta T = 40^\circ\text{C}$ , whichever is smaller.

3. Resistance measured with both windings conducted in parallel (case size 40 only).

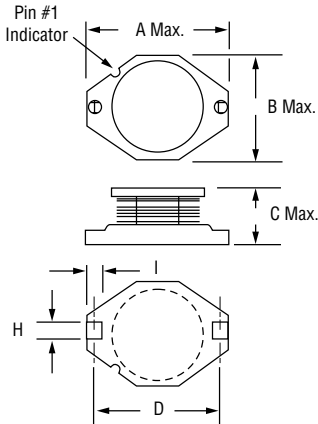
4. Rated current will be decreased by 50% when parts are connected as coupled inductors.

5. Part numbers which appear in bold print are standard items and generally available from factory stock.

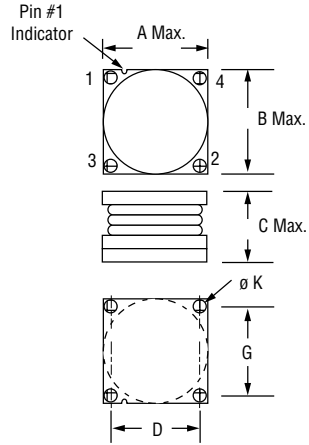
**OUTLINE DIMENSIONS - TERMINATION TYPE 'J'**

Inch  
mm

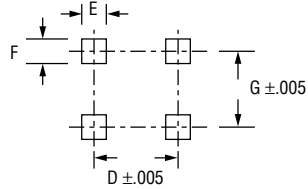
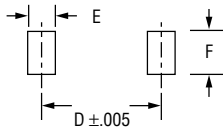
**Figure 1**  
(Case Sizes: 10, 20, 30 & 50)



**Figure 2**  
(Case Size: 40)



**Recommended Solder Pad Layout**

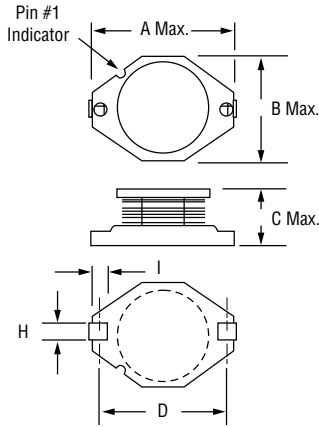


Case Size	Fig.	A	B	C	D	E	F	G	H	I	K
10	1	.280	.188	.127	.218	.059	.10	-	.067	.051	-
		7.30	4.78	3.23	5.54	1.50	2.54	-	1.70	1.30	-
20	1	.530	.370	.137	.404	.120	.135	-	.102	.107	-
		13.46	9.40	3.50	10.26	3.05	3.43	-	2.59	2.72	-
30	1	.530	.370	.232	.404	.120	.135	-	.102	.107	-
		13.46	9.40	5.90	10.26	3.05	3.43	-	2.59	2.72	-
40	2	.634	.622	.284	.520	.157	.157	.466	-	-	.100
		16.10	15.80	7.21	13.21	4.00	4.00	11.84	-	-	2.54
50	1	.746	.60	.284	.595	.145	.135	-	.102	.107	-
		18.95	15.24	7.21	15.11	3.68	3.43	-	2.59	2.72	-

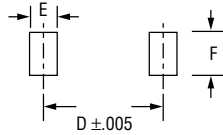
**OUTLINE DIMENSIONS - TERMINATION TYPE 'G'**

Inch  
mm

**Figure 3**  
(Case Sizes: 20, 30 & 50)



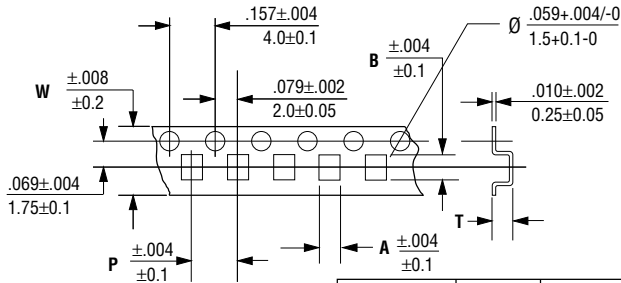
**Recommended Solder Pad Layout**



Case Size	Fig.	A	B	C	D	E	F	H	I
20	3	.595	.370	.137	.480	.120	.135	.102	.107
		15.11	9.40	3.50	12.19	3.05	3.43	2.59	2.72
30	3	.595	.370	.232	.480	.120	.135	.102	.107
		15.11	9.40	5.90	12.19	3.05	3.43	2.59	2.72
50	3	.790	.600	.284	.700	.145	.135	.102	.107
		20.07	15.24	7.21	17.78	3.68	2.43	2.59	2.72

Note: Case size 10 and 40 not available in this model.

## TAPE AND REEL (INCH/mm)



Tape Material: Polystyrene

Case Size	A Dim.	B Dim.	W Dim.	P Dim.	T Dim.
10	.185	.291	.473	.315	.138
	4.70	7.40	12.0	8.00	3.50
20	.390	.543	.945	.473	.138
	9.90	13.8	24.0	12.0	3.50
30	.390	.543	.945	.630	.236
	9.90	13.8	24.0	16.0	6.00
40	.630	.630	.945	.945	.307
	16.0	16.0	24.0	24.0	7.80
50	.610	.748	1.26	.945	.315
	15.5	19.0	32.0	24.0	8.00

## PACKAGING

**Standard:** Embossed Tape & Reel

All units oriented with lead #1 to the same side of sprocket hole.

Reel:	Capacity, Units	Case Size 10	=	500
		Case Size 20	=	1,000
		Case Size 30	=	350
		Case Size 40	=	200
		Case Size 50	=	200
Diameter		Case Size 10	=	7" (177.8mm)
		Case Size 20	=	13" (330.2mm)
		Case Size 30	=	13" (330.2mm)
		Case Size 40	=	13" (330.2mm)
		Case Size 50	=	13" (330.2mm)

