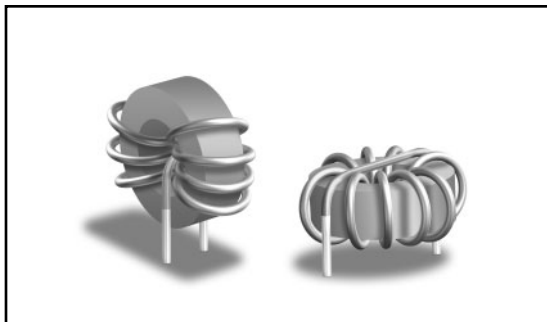


# MODEL HM53 SERIES

## High Power

## Low Cost Inductors

NEW PRODUCT



### FEATURES AND BENEFITS

- High current capability
- Single layer, cost effective design
- Available in two styles - horizontal and vertical

### APPLICATIONS

- Switching power supplies
- Motor control circuits
- Differential EMI filters
- Inductor for general purpose use and ripple filters

### ELECTRICAL / ENVIRONMENTAL

Insulation Resistance, Minimum	100 Megohms
Operating Temperature Range	-40°C to +125°C
Ambient Temperature, Maximum	85°C
Insulation System	Class B, 130°C
Temperature Rise, Maximum	40°C

Specifications subject to change without notice.  
Last Update: 01/06/2003.

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## SPECIFICATIONS

Part Number	Inductance (1) Control Value $\mu\text{H}$ $\pm 20\%$	Rated (2) Inductance $\mu\text{H}$ Typ.	Rated Current DC Amps	DC Resistance $\text{m}\Omega$ Max.	$\text{ET}_{\text{op}}$ (3) V- $\mu\text{S}$ Max.	Energy Storage $\mu\text{J}$ Min.
HM53-001R1 V or H	1.4	1.1	14.0	2.6	14	112
HM53-001R6 V or H	1.7	1.6	8.0	3.7	10	51
HM53-001R8 V or H	2.6	1.8	15.0	3.5	14	204
HM53-001R9 V or H	2.7	1.9	10.0	5.1	9	95
HM53-002R0 V or H	2.8	2.0	8.5	4.8	10	72
HM53-003R0 V or H	4.4	3.1	13.5	4.5	16	280
HM53-005R5 V or H	7.9	5.5	8.5	8.9	25	199
HM53-007R8 V or H	11.1	7.8	5.7	12.9	31	127
HM53-009R5 V or H	13.5	9.5	9.0	8.1	51	384
HM53-10111 V or H	151.7	106.4	2.3	165.9	112	282
HM53-10171 V or H	250.9	175.2	2.2	224.2	156	424
HM53-10180 V or H	25.3	17.9	2.0	20.5	58	36
HM53-10320 V or H	50.3	32.3	2.6	59.1	70	109
HM53-10351 V or H	505.0	354.3	1.9	375.1	326	639
HM53-10531 V or H	754.4	529.2	2.4	468.1	370	1524
HM53-10650 V or H	104.0	65.2	2.4	108.6	90	188
HM53-10701 V or H	1000.4	701.4	2.1	679.4	300	1547
HM53-108R0 V or H	10.1	8.0	3.0	10.5	36	36
HM53-20101 V or H	148.0	103.6	4.0	70.5	246	829
HM53-20171 V or H	251.1	175.4	4.2	96.0	352	1547
HM53-20190 V or H	25.0	19.1	4.0	20.3	73	153
HM53-20350 V or H	50.0	35.0	4.9	29.1	103	420
HM53-20351 V or H	499.4	349.0	3.3	136.4	609	1901
HM53-20521 V or H	749.3	521.9	3.4	225.4	865	3016
HM53-20580 V or H	73.9	58.1	2.5	59.9	132	181
HM53-20710 V or H	101.7	70.8	4.3	48.5	188	655
HM53-20710 V or H	101.7	70.8	4.3	48.5	188	655
HM53-208R0 V or H	10.6	8.0	6.0	8.3	44	144

Notes: (1) Inductance measured at 100kHz, 0.1V without DC current.

(2) Value with rated DC current and the operating  $\text{ET}_{\text{op}}$  across the inductor.

(3) Applied Volt-Time Product (V- $\mu\text{S}$ ) across the inductor. Value represents the V- $\mu\text{S}$  at 50kHz and total losses for 40°C temperature rise.

## SPECIFICATIONS

Part Number	Inductance (1) Control Value $\mu\text{H}$ $\pm 20\%$	Rated (2) Inductance $\mu\text{H}$ Typ.	Rated Current DC Amps	DC Resistance $\text{m}\Omega$ Max.	$\text{ET}_{\text{op}}$ (3) V- $\mu\text{S}$ Max.	Energy Storage $\mu\text{J}$ Min.
HM53-30101 V or H	150.6	105.4	7.5	45.6	389	2965
HM53-30150 V or H	21.3	14.9	9.3	17.8	56	643
HM53-30181 V or H	254.4	178.2	8.1	48.2	636	5846
HM53-30350 V or H	49.6	34.9	9.4	21.9	144	1542
HM53-30580 V or H	78.0	58.5	4.0	40.9	181	468
HM53-30690 V or H	97.2	67.9	7.5	31.0	253	1908
HM53-306R8 V or H	9.7	6.8	11.1	8.3	32	418
HM53-40111 V or H	152.8	106.8	10.5	29.8	486	5887
HM53-40150 V or H	14.5	14.7	14.5	11.5	75	1540
HM53-40360 V or H	52.3	36.5	10.2	18.3	178	1900
HM53-40550 V or H	74.5	54.8	6.0	26.1	209	987
HM53-40710 V or H	101.4	71.1	9.1	21.2	357	2945
HM53-407R0 V or H	10.0	7.0	13.5	7.9	41	638
HM53-50150 V or H	21.2	14.8	16.0	8.2	107	1896
HM53-50370 V or H	52.4	36.7	12.7	15.2	234	2959
HM53-50550 V or H	77.6	54.2	10.5	21.1	290	2988
HM53-50700 V or H	99.4	69.5	13.0	13.6	427	5874
HM53-507R0 V or H	10.0	7.0	20.9	5.6	50	1535
HM53-60130 V or H	19.2	13.5	29.5	4.8	154	5861
HM53-60350 V or H	50.2	35.1	21.0	9.2	268	7737
HM53-607R0 V or H	9.9	6.9	29.3	4.3	80	2975

Notes: (1) Inductance measured at 100kHz, 0.1V without DC current.

(2) Value with rated DC current and the operating  $\text{ET}_{\text{op}}$  across the inductor.

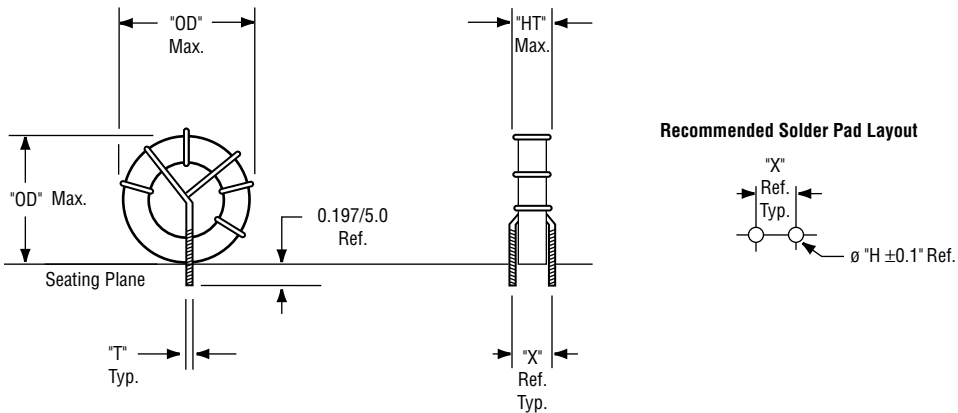
(3) Applied Volt-Time Product (V- $\mu\text{S}$ ) across the inductor. Value represents the V- $\mu\text{S}$  at 50kHz and total losses for 40°C temperature rise.

**OUTLINE DIMENSIONS (Inch/mm)**

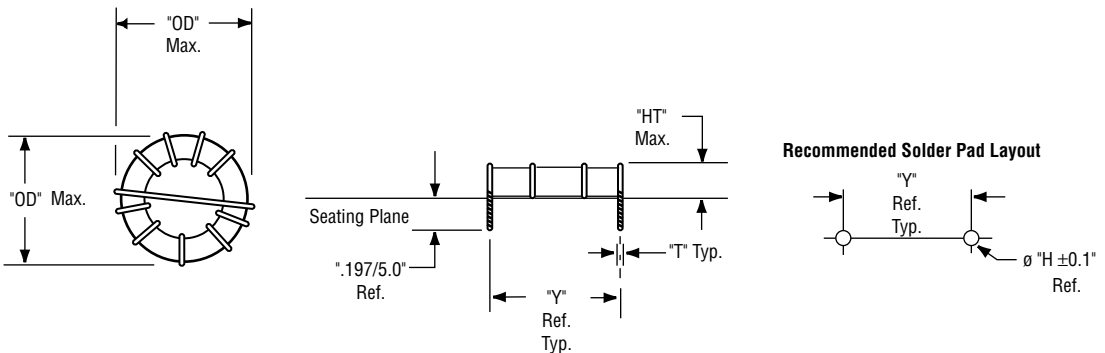
Part Number	Dim. OD	Dim. HT	Dim. X	Dim. Y	Dim. T	Dim. H
HM53-001R1 V or H	0.906/23.0	0.551/14.0	0.453/11.5	0.807/20.5	0.054/1.38	0.064/1.63
HM53-001R6 V or H	0.630/16.0	0.433/11.0	0.299/7.6	0.492/12.5	0.043/1.10	0.053/1.35
HM53-001R8 V or H	0.906/23.0	0.551/14.0	0.453/11.5	0.807/20.5	0.054/1.38	0.064/1.63
HM53-001R9 V or H	0.689/17.5	0.449/11.4	0.331/8.4	0.551/14.0	0.043/1.10	0.053/1.35
HM53-002R0 V or H	0.630/16.0	0.433/11.0	0.300/7.6	0.492/12.5	0.043/1.10	0.053/1.35
HM53-003R0 V or H	0.965/24.5	0.551/14.0	0.453/11.5	0.791/20.1	0.054/1.38	0.064/1.63
HM53-005R5 V or H	0.807/20.5	0.512/13.0	0.374/9.5	0.728/18.5	0.043/1.10	0.053/1.35
HM53-007R8 V or H	0.669/17.0	0.531/13.5	0.394/10.0	0.551/14.0	0.043/1.10	0.053/1.35
HM53-009R5 V or H	0.906/23.0	0.748/19.0	0.591/15.0	0.807/20.5	0.054/1.38	0.064/1.63
HM53-10111 V or H	0.815/20.7	0.370/9.4	0.307/7.8	0.740/18.8	0.020/0.52	0.030/0.77
HM53-10171 V or H	0.823/20.9	0.512/13.0	0.433/11.0	0.740/18.8	0.020/0.52	0.030/0.77
HM53-10180 V or H	0.638/16.2	0.315/8.0	0.250/6.4	0.559/14.2	0.034/0.86	0.044/1.11
HM53-10320 V or H	0.638/16.2	0.354/9.0	0.295/7.5	0.539/13.7	0.023/0.58	0.033/0.83
HM53-10351 V or H	0.945/24.0	0.602/15.3	0.551/14.0	0.835/21.2	0.020/0.52	0.030/0.77
HM53-10531 V or H	1.173/29.8	0.685/17.4	0.614/15.6	1.110/28.2	0.020/0.52	0.030/0.77
HM53-10650 V or H	0.610/15.5	0.488/12.4	0.421/10.7	0.539/13.7	0.023/0.58	0.033/0.83
HM53-10701 V or H	1.173/29.8	0.673/17.1	0.610/15.5	1.102/28.0	0.018/0.46	0.028/0.71
HM53-108R0 V or H	0.638/16.2	0.315/8.0	0.250/6.4	0.559/14.2	0.038/0.96	0.048/1.21
HM53-20101 V or H	1.205/30.6	0.449/11.4	0.366/9.3	1.122/28.5	0.031/0.80	0.041/1.05
HM53-20171 V or H	1.228/31.2	0.748/19.0	0.618/15.7	1.122/28.5	0.035/0.89	0.045/1.14
HM53-20190 V or H	0.866/22.0	0.354/9.0	0.320/8.1	0.752/19.1	0.039/1.00	0.049/1.25
HM53-20350 V or H	0.850/21.6	0.535/13.6	0.433/11.0	0.768/19.5	0.035/0.89	0.045/1.14
HM53-20351 V or H	1.445/36.7	0.583/14.8	0.492/12.5	1.358/34.5	0.028/0.71	0.038/0.96
HM53-20521 V or H	1.705/43.3	0.717/18.2	0.622/15.8	1.634/41.5	0.031/0.80	0.041/1.05
HM53-20580 V or H	0.866/22.0	0.354/9.0	0.320/8.1	0.752/19.1	0.031/0.80	0.041/1.05
HM53-20710 V or H	0.945/24.0	0.654/16.6	0.547/13.9	0.858/21.8	0.035/0.89	0.045/1.14
HM53-208R0 V or H	0.866/22.0	0.354/9.0	0.320/8.1	0.720/18.3	0.046/1.17	0.056/1.42
HM53-30101 V or H	1.827/46.4	0.780/19.8	0.661/16.8	1.709/43.4	0.049/1.24	0.059/1.49
HM53-30150 V or H	0.965/24.5	0.654/16.6	0.571/14.5	0.866/22.0	0.035/0.89	0.045/1.14
HM53-30181 V or H	2.114/53.7	0.957/24.3	0.791/20.1	1.945/49.4	0.054/1.38	0.064/1.63
HM53-30350 V or H	1.272/32.3	0.744/18.9	0.650/16.5	1.134/28.8	0.044/1.11	0.054/1.36
HM53-30580 V or H	1.181/30.0	0.512/13.0	0.402/10.2	1.024/26.0	0.039/1.00	0.049/1.25
HM53-30690 V or H	1.488/37.8	0.661/16.8	0.535/13.6	1.398/35.5	0.049/1.24	0.059/1.49
HM53-306R8 V or H	0.874/22.2	0.547/13.9	0.453/11.5	0.783/19.9	0.044/1.11	0.054/1.36
HM53-40111 V or H	2.146/54.5	1.000/25.4	0.835/21.2	2.004/50.9	0.068/1.73	0.078/1.98
HM53-40150 V or H	1.276/32.4	0.780/19.8	0.661/16.8	1.150/29.2	0.054/1.38	0.064/1.63
HM53-40360 V or H	1.535/39.0	0.661/16.8	0.547/13.9	1.406/35.7	0.054/1.38	0.064/1.63
HM53-40550 V or H	1.378/35.0	0.630/16.0	0.559/14.2	1.201/30.5	0.048/1.21	0.057/1.46
HM53-40710 V or H	1.909/48.5	0.858/21.8	0.677/17.2	1.709/43.4	0.068/1.73	0.078/1.98
HM53-407R0 V or H	1.012/25.7	0.709/18.0	0.630/16.0	0.882/22.4	0.054/1.38	0.064/1.63
HM53-50150 V or H	1.594/40.5	0.709/18.0	0.563/14.3	1.386/35.2	0.068/1.73	0.078/1.98
HM53-50370 V or H	1.870/47.5	0.839/21.3	0.689/17.5	1.685/42.8	0.068/1.73	0.078/1.98
HM53-50550 V or H	1.870/47.5	0.839/21.3	0.689/17.5	1.685/42.8	0.064/1.63	0.074/1.88
HM53-50700 V or H	2.244/57.0	1.083/27.5	0.839/21.3	1.992/50.6	0.085/2.15	0.094/2.40
HM53-507R0 V or H	1.339/34.0	0.843/21.4	0.669/17.0	1.165/29.6	0.068/1.73	0.078/1.98
HM53-60130 V or H	2.323/59.0	1.102/28.0	0.906/23.0	1.996/50.7	0.106/2.69	0.116/2.94
HM53-60350 V or H	2.480/63.0	1.417/36.0	1.220/31.0	2.244/57.0	0.106/2.69	0.116/2.94
HM53-607R0 V or H	1.980/50.3	0.945/24.0	0.732/18.6	1.693/43.0	0.095/2.41	0.105/2.66

**OUTLINE DIMENSIONS (Inch/mm)**

**Figure 1 - Vertical Mount**



**Figure 2 - Horizontal Mount**



**ORDERING INFORMATION**

