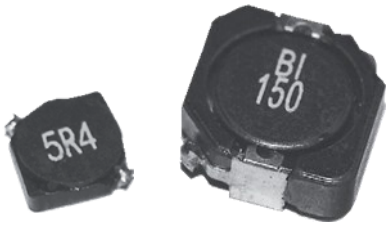
Miniature Low Profile
Shielded Surface Mount Inductors

HM66 Series



Features:

- Operating temperature range -40°C to +125°C
- Ambient temperature, maximum 80°C
- Temperature rise, maximum 40°C
- Operating frequency up to 3MHz
- RoHS compliant

All parts are Pb free and comply with EU RoHS Directive 2011/65/EU with amendment EU 2015/863 (RoHS 3)

Description:

The HM66 is a miniature low profile shielded surface mount inductor. It is characterized by low losses at high frequencies. These compact power inductors offer excellent current handling, low DC resistance and magnetic shielding for high-density mounting. There are total 8 case sizes on this from 3.8x3.8mm 1.85mm max height up to 10.0x10.2mm 4.0mm max height.

Applications:

- Low profile buck DC-DC converters
- Low profile POL converters
- Output power filter for forward converters
- Power inductance for electronic breakers
- Industrial automation systems
- Industrial DC-DC converters
- Industrial EMI filters

General Note
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Shielded Surface Mount Inductors

HM66 Series

Electrical Specifications

Part Number	Inductance [1] Nominal µH ± 20 %	DC Resistance Ω Max.	Rated [2] Current Amps	Figure
HM66-151R5LFTR7	1.5	0.055	1.55	1
HM66-152R2LFTR7	2.2	0.072	1.20	1
HM66-153R3LFTR7	3.3	0.085	1.10	1
HM66-154R7LFTR7	4.7	0.105	0.90	1
HM66-156R8LFTR7	6.8	0.170	0.73	1
HM66-15100LFTR7	10	0.210	0.55	1
HM66-15150LFTR7	15	0.295	0.45	1
HM66-15220LFTR7	22	0.430	0.40	1
HM66-15330LFTR7	33	0.675	0.32	1
HM66-201R0LFTR13	1.0	0.045	1.72	1
HM66-202R2LFTR13	2.2	0.075	1.32	1
HM66-202R7LFTR13	2.7	0.105	1.28	1
HM66-203R3LFTR13	3.3	0.110	1.04	1
HM66-203R9LFTR13	3.9	0.155	0.88	1
HM66-204R7LFTR13	4.7	0.162	0.84	1
HM66-205R6LFTR13	5.6	0.170	0.80	1
HM66-206R8LFTR13	6.8	0.200	0.76	1
HM66-208R2LFTR13	8.2	0.245	0.68	1
HM66-20100LFTR13	10	0.200	0.61	1
HM66-20120LFTR13	12	0.210	0.56	1
HM66-20150LFTR13	15	0.240	0.50	1
HM66-20180LFTR13	18	0.338	0.48	1
HM66-20220LFTR13	22	0.397	0.41	1
HM66-20270LFTR13	27	0.441	0.35	1
HM66-20330LFTR13	33	0.694	0.32	1
HM66-20390LFTR13	39	0.709	0.30	1
HM66-301R2LFTR13	1.2	0.024	2.56	1
HM66-301R8LFTR13	1.8	0.028	2.20	1
HM66-302R2LFTR13	2.2	0.031	2.04	1

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Part Number	Inductance [1] Nominal µH ± 20 %	DC Resistance Ω Max.	Rated [2] Current Amps	Figure
HM66-302R7LFTR13	2.7	0.043	1.60	1
HM66-303R3LFTR13	3.3	0.049	1.57	1
HM66-303R9LFTR13	3.9	0.065	1.44	1
HM66-304R7LFTR13	4.7	0.072	1.32	1
HM66-305R6LFTR13	5.6	0.101	1.17	1
HM66-306R8LFTR13	6.8	0.109	1.12	1
HM66-308R2LFTR13	8.2	0.118	1.04	1
HM66-30100LFTR13	10	0.128	1.00	1
HM66-30120LFTR13	12	0.132	0.84	1
HM66-30150LFTR13	15	0.149	0.76	1
HM66-30180LFTR13	18	0.166	0.72	1
HM66-30220LFTR13	22	0.235	0.70	1
HM66-30270LFTR13	27	0.261	0.58	1
HM66-30330LFTR13	33	0.378	0.56	1
HM66-30390LFTR13	39	0.384	0.50	1
HM66-30470LFTR13	47	0.587	0.48	1
HM66-30560LFTR13	56	0.625	0.41	1
HM66-30680LFTR13	68	0.699	0.35	1
HM66-30820LFTR13	82	0.915	0.32	1
HM66-30101LFTR13	100	1.020	0.29	1
HM66-30121LFTR13	120	1.270	0.27	1
HM66-30151LFTR13	150	1.350	0.24	1
HM66-30181LFTR13	180	1.540	0.22	1
HM66-404R1LFTR13	4.1	0.057	1.95	1
HM66-405R4LFTR13	5.4	0.076	1.60	1
HM66-406R2LFTR13	6.2	0.096	1.40	1
HM66-408R9LFTR13	8.9	0.116	1.25	1
HM66-40100LFTR13	10	0.124	1.20	1
HM66-40120LFTR13	12	0.153	1.10	1

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Part Number	Inductance [1] Nominal µH ± 20 %	DC Resistance Ω Max.	Rated [2] Current Amps	Figure
HM66-40150LFTR13	15	0.196	0.97	1
HM66-40180LFTR13	18	0.210	0.85	1
HM66-40220LFTR13	22	0.290	0.80	1
HM66-40270LFTR13	27	0.330	0.75	1
HM66-40330LFTR13	33	0.386	0.65	1
HM66-40390LFTR13	39	0.520	0.57	1
HM66-40470LFTR13	47	0.595	0.54	1
HM66-40560LFTR13	56	0.665	0.50	1
HM66-40680LFTR13	68	0.840	0.43	1
HM66-40820LFTR13	82	0.978	0.41	1
HM66-40101LFTR13	100	1.200	0.36	1
HM66-502R5LFTR13	2.5	0.018	2.60	1
HM66-503R0LFTR13	3.0	0.024	2.40	1
HM66-504R2LFTR13	4.2	0.031	2.20	1
HM66-505R3LFTR13	5.3	0.038	1.90	1
HM66-506R2LFTR13	6.2	0.045	1.80	1
HM66-508R2LFTR13	8.2	0.053	1.60	1
HM66-50100LFTR13	10	0.065	1.30	1
HM66-50120LFTR13	12	0.076	1.20	1
HM66-50150LFTR13	15	0.103	1.10	1
HM66-50180LFTR13	18	0.110	1.00	1
HM66-50220LFTR13	22	0.122	0.90	1
HM66-50270LFTR13	27	0.175	0.85	1
HM66-50330LFTR13	33	0.189	0.75	1
HM66-50390LFTR13	39	0.212	0.70	1
HM66-50470LFTR13	47	0.260	0.62	1
HM66-50560LFTR13	56	0.305	0.58	1
HM66-50680LFTR13	68	0.355	0.52	1
HM66-50820LFTR13	82	0.463	0.46	1

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HM66 Series

Electrical Specifications

Part Number	Inductance [1] Nominal µH ± 20 %	DC Resistance Ω Max.	Rated [2] Current Amps	Figure
HM66-50101LFTR13	100	0.520	0.42	1
HM66-603R0LFTR13	3.0	0.024	3.00	1
HM66-603R9LFTR13	3.9	0.027	2.60	1
HM66-605R0LFTR13	5.0	0.031	2.40	1
HM66-606R0LFTR13	6.0	0.035	2.25	1
HM66-607R3LFTR13	7.3	0.054	2.10	1
HM66-608R6LFTR13	8.6	0.058	1.85	1
HM66-60100LFTR13	10	0.065	1.70	1
HM66-60120LFTR13	12	0.070	1.55	1
HM66-60150LFTR13	15	0.084	1.40	1
HM66-60180LFTR13	18	0.095	1.32	1
HM66-60220LFTR13	22	0.128	1.20	1
HM66-60270LFTR13	27	0.142	1.05	1
HM66-60330LFTR13	33	0.165	0.97	1
HM66-60390LFTR13	39	0.210	0.86	1
HM66-60470LFTR13	47	0.238	0.80	1
HM66-60560LFTR13	56	0.277	0.73	1
HM66-60680LFTR13	68	0.304	0.65	1
HM66-60820LFTR13	82	0.390	0.60	1
HM66-60101LFTR13	100	0.535	0.54	1
HM66-703R3LFTR13	3.3	0.020	3.50	1
HM66-705R0LFTR13	5.0	0.024	2.90	1
HM66-706R2LFTR13	6.2	0.027	2.50	1
HM66-707R4LFTR13	7.4	0.031	2.30	1
HM66-708R7LFTR13	8.7	0.034	2.20	1
HM66-70100LFTR13	10	0.038	2.00	1
HM66-70120LFTR13	12	0.053	1.70	1
HM66-70150LFTR13	15	0.057	1.60	1
HM66-70180LFTR13	18	0.092	1.50	1

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Electrical Specifications

Part Number	Inductance [1] Nominal µH ± 20 %	DC Resistance Ω Max.	Rated [2] Current Amps	Figure
HM66-70220LFTR13	22	0.096	1.30	1
HM66-70270LFTR13	27	0.109	1.20	1
HM66-70330LFTR13	33	0.124	1.10	1
HM66-70390LFTR13	39	0.138	1.00	1
HM66-70470LFTR13	47	0.155	0.95	1
HM66-70560LFTR13	56	0.202	0.85	1
HM66-70680LFTR13	68	0.234	0.75	1
HM66-70820LFTR13	82	0.324	0.70	1
HM66-70101LFTR13	100	0.358	0.65	1
HM66-70221LFTR13	220	0.820	0.45	1
HM66-801R5LFTR13	1.5	0.0081	10.0	2
HM66-802R5LFTR13	2.5 ± 30%	0.0105	7.50	2
HM66-803R8LFTR13	3.8	0.017	6.00	2
HM66-805R2LFTR13	5.2	0.022	5.50	2
HM66-807R0LFTR13	7	0.027	4.80	2
HM66-80100LFTR13	10	0.035	4.40	2
HM66-80150LFTR13	15	0.050	3.60	2
HM66-80220LFTR13	22	0.073	2.90	2
HM66-80330LFTR13	33	0.093	2.30	2
HM66-80470LFTR13	47	0.128	2.10	2
HM66-80680LFTR13	68	0.213	1.50	2
HM66-80101LFTR13	100	0.304	1.35	2
HM66-80151LFTR13	150	0.506	1.15	2
HM66-80221LFTR13	220	0.756	0.92	2
HM66-80331LFTR13	330	1.090	0.70	2
HM66-80561LFTR13	560	1.900	0.45	2
HM66-80102LFTR13	1000	4.000	0.40	2

Notes: (1) Test conditions for case sizes 15, 20, 30 , 80 = 100 kHz, 0.1 V without DC current. Test conditions for case sizes 40, 50, 60, 70 = 10 kHz, 0.1 V without DC current.
(2) Rated DC current is the approximate current at which inductance will be decreased by 35% from its initial (zero DC) value or the DC curent at which ΔT = 40°C, whichever is lower.

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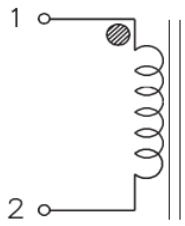
HM66 Series

Electrical Schematic



Outline Dimensions

Figure 1

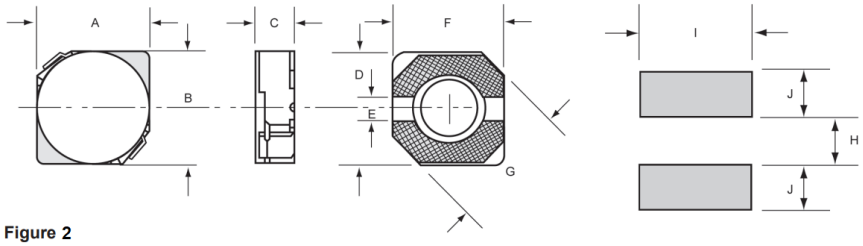
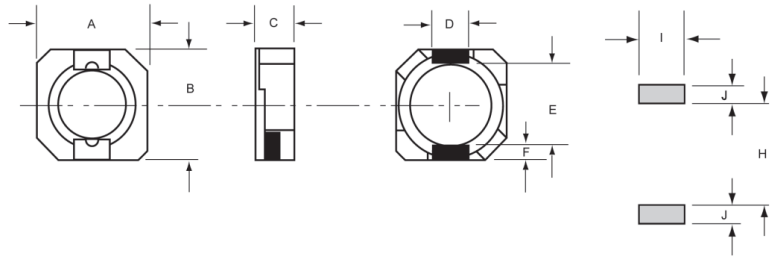


Figure 2



Case Size	Figure	A	B	C Max	D	E	F	G Max	H	I	J
15	1	3.8 ± 0.5	3.8 ± 0.5	1.85	3.8 ± 0.3	1.1 ± 0.15	3.8 ± 0.3	5.5	1.1	4.5	1.7
20	1	4.7 ± 0.5	4.7 ± 0.5	2.1	4.5 ± 0.3	1.5 ± 0.15	4.5 ± 0.3	6.9	1.5	5.3	1.9
30	1	4.7 ± 0.5	4.7 ± 0.5	3.0	4.5 ± 0.3	1.5 ± 0.15	4.5 ± 0.3	6.9	1.5	5.3	1.9
40	1	5.7± 0.5	5.7± 0.5	2.0	5.5± 0.3	2.0 ± 0.15	5.5± 0.3	8.2	2.0	6.3	2.15
50	1	5.7 ± 0.5	5.7 ± 0.5	3.0	5.5± 0.3	2.1 ± 0.1	5.5± 0.3	8.2	2.0	6.3	2.15
60	1	6.7 ± 0.5	6.7 ± 0.5	3.0	6.5± 0.3	2.1 ± 0.1	6.5± 0.3	9.5	2.0	7.3	2.65
70	1	6.7 ± 0.5	6.7 ± 0.5	4.0	6.5± 0.3	2.1 ± 0.1	6.5± 0.3	9.5	2.0	7.3	2.65
80	2	10.0± 0.5	10.2± 0.5	4.0	3.0 ± 0.1	7.7 ± 0.3	1.2± 0.15	-	7.3	3.2	1.7

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Packaging

Standard:	Embossed Tape and Reel				
	Reel:	Diameter:	Case size 15	=	7 ’’ (177.8mm)
			All other case sizes	=	13’’ (330.2mm)
		Capacity:	Case size 20	=	3,000 Units
			Case size 30,40,50	=	2,000 Units
			Case size 60	=	1,500 Units
			Case size 15,70	=	1,000 Units
			Case size 80	=	800 Units

Ordering Information

HM66 – XX 100 LF TR13

Model Series

Case Size
80 = Figure 2
15, 20, 30, 40, 50, 60, 70 = Figure 1

Tape & Reel Packing
7 – 7 ” reel
13 - 13 ” reel

Lead-Free

Inductance code:
First 2 digits are significant. Last digit denotes the number of trailing zeros. For values below 10µH, ” R” denotes the decimal point.

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Cautions & Warnings

1. All components are manufactured, designed, and promoted for application in general electronics devices. For specific application use such as in automotive, medical, military and aerospace industry other than for general electronic devices, BI Technologies must be asked for written approval before incorporating the components into those areas.
2. Any components that will be used in high-reliability / high level of safety applications should be pre-evaluated by the end customer especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health.
3. The customer shall be responsible for evaluating and confirming BI Technologies product is suitable for use in customer's applications. If customer applications requiring a very high level of operational safety and especially in customer applications in which a failure of an electronic component could endanger human life or health, it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer such that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
4. Customer must be cautioned to verify that data sheets are the updated ones before placing orders especially of standard series.
5. Customer need to use the part within warranty period as stated in quotation. Any trouble or failure of electronic components happening during their long life span which cannot be eliminated even after following the instruction within existing technology, BI Technologies would not be liable for it.
6. Many coating/potting materials would shrink as they harden. They therefore applies a pressure on the plastic housing or core. This pressure can have an effect on electrical properties and in extreme cases can damage the core or plastic housing mechanically. It is necessary to check whether the coating/potting material used may attacks or destroys the wire insulation, plastics or glue. The effect of the coating/potting material can change the high-frequency behavior of the components. Many coating/potting materials have a negative effect (chemically and mechanically) on the winding wires, insulation materials and connecting points. Customers are always obligated to determine whether and to what extent their coating materials influence the component. Customers are responsible and bear all risk for the use of the coating material. BI Technologies does not assume any liability for failures of our components that are caused by the coating material.
7. Washing / Cleaning process may jeopardize the product and cause a defect. Washing agents may harm the long-term functionality of the product. The customer shall be responsible for evaluating and confirming the product is suitable for use in customer's applications upon washing/cleaning process as its customer process application related.
8. Products should not be kept in unsuitable storage conditions, such as areas susceptible to high humidity, high temperatures, dust or corrosion where for example atmospheres should be free of chlorine and sulfur bearing compounds. Recommended storage condition in general is +10°C … +40 °C, humidity ≤75% RH. Temperature fluctuations should be minimized to avoid condensation on the parts. Avoid storage near strong magnetic fields, as this might magnetize the product.
9. The storage period should not be longer than 12 months (In the specific storage environment). Oxidization may occur on the terminals. Hence all products shall be consumed within 12 months after the shipping date. If the time is more than 12 months, please check the solderability before use it.
10. Don't touch electrodes terminals directly with bare hands as oil stains may inhibit proper soldering. Always ensure optimum conditions for soldering.
11. Terminals should not be bend or subjected to excessive stress. If the terminals are cable harness type, do not use cable harness to carry the unit or pull the cable harness with a force. It may cause failure on unit immediately or latent effect.
12. Avoid placing magnetic components near the edge of the PCB. It is in customer discretion to have proper design and PCB layout such that component are not damaged in any way of handling nor causing any EMI issue.

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13. Don't touch any exposed winding part and avoid coming into contact with the guide of the electrode as due to charge stored it may cause an electric shock. It is customer discretion to inform all relevant personal handling the components accordingly.
14. The inductor / coil / common mode choke generates heat when current is applied. Please take consideration on this during the design or testing stage.
15. Ferrites are sensitive to direct impact. This can cause the core material to flake, or lead to breakage of the core. Always handle the product with care to prevent any damage.
16. Our specification specifies the quality of the component as a single unit. Please ensure the component is thoroughly evaluated in customer application circuit, therefor even for customized products, conclusive validation of the component in the circuit can only be carried out by customer.
17. The general testing condition is in the room temperature 25°C +/- 5°C and humidity under 70% RH, which is applied to all products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer.
18. If have any query, please feel free to contact our sales team.

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