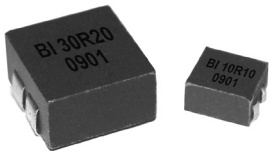
Electrical / Environmental

HM69D

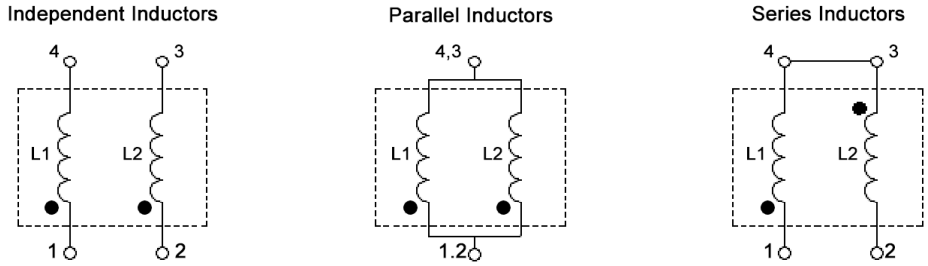
Surface Mount Power Bead Coupled Inductors

- Operating Temperature Range -40°C to +125°C
- Temperature Rise, Maximum 40°C
- Operating Frequency Up to 3MHz

RoHS Compliant



Schematics



Specifications @ 25°C

Dual Phase Integrated Inductor Specifications (Multi-Phase System[1])

Part Number	Inductance 100kHz, 0.1V @ 0 Adc (nH ± 20%) L1	L2	Inductance 100kHz, 0.1V @ I_{rated} (nH ± 20%) L1	L2	DCR[2] (mΩ Typ.) L1	L2	I_{rated}[3] @ 25°C (Adc) L1	L2	I_{sat}[4] @ 25°C (Adc) L1	L2	Heating Current[5] (Adc) L1	L2
HM69D-10R10LF	100	100	90	90	0.67	0.67	35	35	37	37	20	20
HM69D-30R20LF	200	200	180	180	0.43	0.43	24	24	27	27	44	44
HM69D-30R23LF	230	230	207	207	0.43	0.43	22	22	25	25	44	44
HM69D-30R33LF	330	330	297	297	0.43	0.43	17	17	19	19	44	44

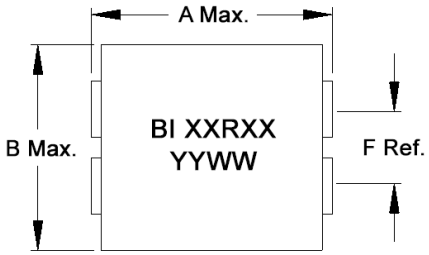
Single Phase Inductor Specifications (Parallel & Series Connections[1])

Part Number	Inductance 100kHz, 0.1V @ 0 Adc (nH ± 20%)	@ I_{rated} (nH ± 20%)	DCR[2] (mΩ Typ.)	I_{rated}[3] @ 25°C (Adc)	I_{sat}[4] @ 25°C (Adc)	Heating Current[5] (Adc)	Connection
HM69D-10R10LF	50	45	0.34	60	62	28	Parallel
HM69D-30R20LF	100	90	0.22	95	105	62	
HM69D-30R23LF	115	103	0.22	81	90	62	
HM69D-30R33LF	165	148	0.22	67	72	62	
HM69D-10R10LF	200	180	1.35	32	34	14	Series
HM69D-30R20LF	400	360	0.90	44	50	30	
HM69D-30R23LF	460	414	0.90	42	47	30	
HM69D-30R33LF	660	594	0.90	36	40	30	

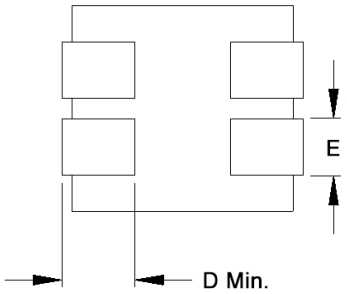
Notes: (1) The HM69D consists of two separate and independent inductors integrated into a single package. The two inductors can be used for two separate phases within dual output or multi-phase application or they can be connected in series or parallel to form a single inductor within a single phase application.
(2) The normal DC resistance has a tolerance of ±9%. This tolerance is guaranteed by design but is not a manufacturing production test. For production test, a maximum DC resistance value is used.
(3) The rated current is the current which causes the inductance to drop a maximum of 10% from the nominal inductance @0A at the stated ambient temperature of 25°C. This current is determined by applying a short duration pulse current (to avoid self-heating effects) to the device.
(4) The saturation current is the current which causes the inductance to drop a maximum of 30% from the nominal inductance @0A at the stated ambient temperature of 25°C. This current is determined by applying a short duration pulse current (to avoid self-heating effects) to the device.
(5) The heating current to the DC current which causes the component temperature to increase by approximately 40°C. This current is detemined by soldering the component on a typical application PCB, and then applying the current to the device for 30 minutes.

Outline Dimensions (mm)

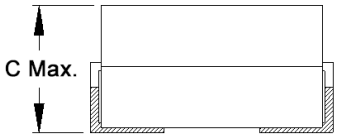
Top View



Bottom View

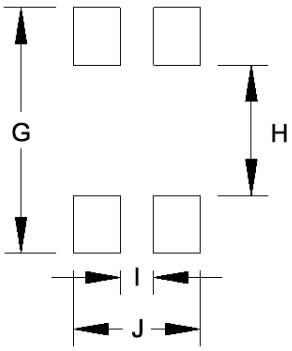


Side View

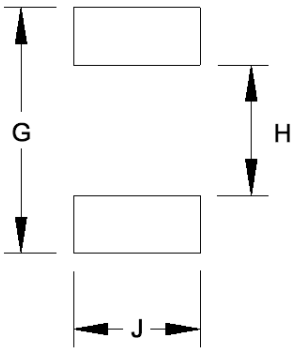


Recommended Solder Pad Layout

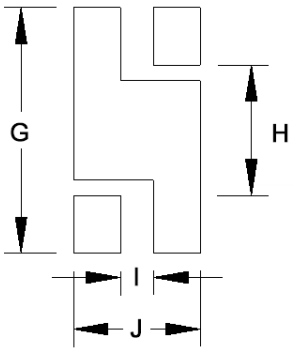
Independent Inductors



Parallel Inductors



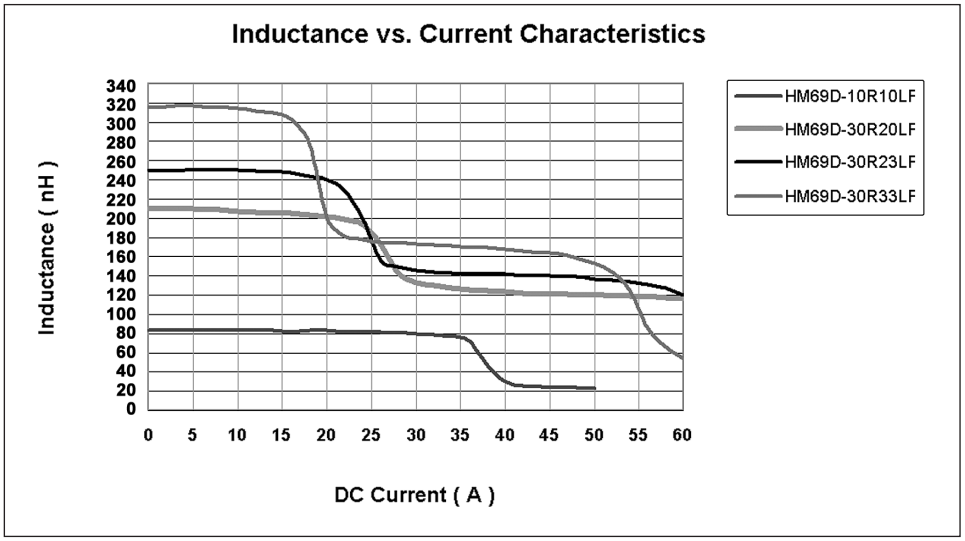
Series Inductors



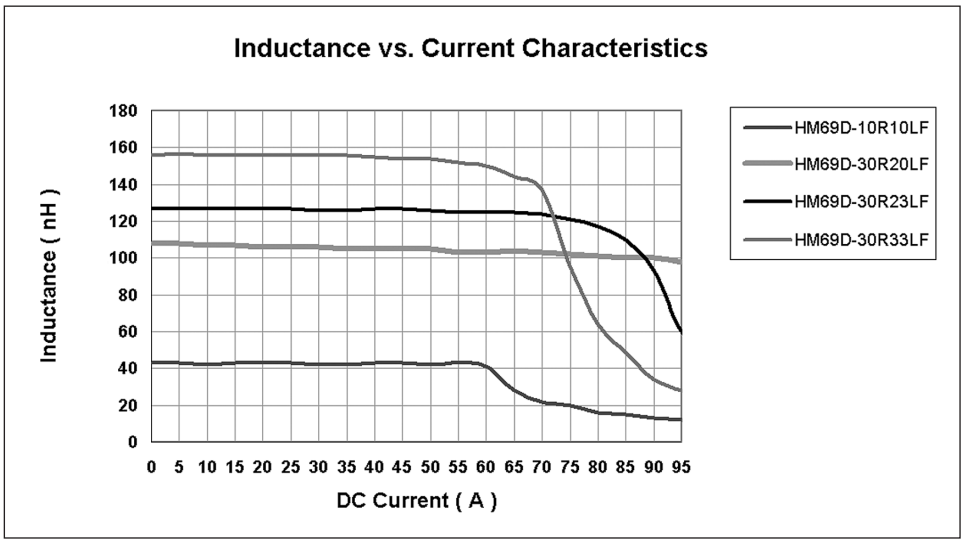
Case Size	A	B	C	D	E	F	G	H	I	J
10	8.20	6.80	4.50	2.50	1.27	2.65	8.80	4.20	1.00	4.00
30	14.00	13.20	7.00	2.50	2.80	4.15	14.60	7.50	2.00	8.00

Electrical Characteristics @ 25°C

(A) Two Independent Inductors

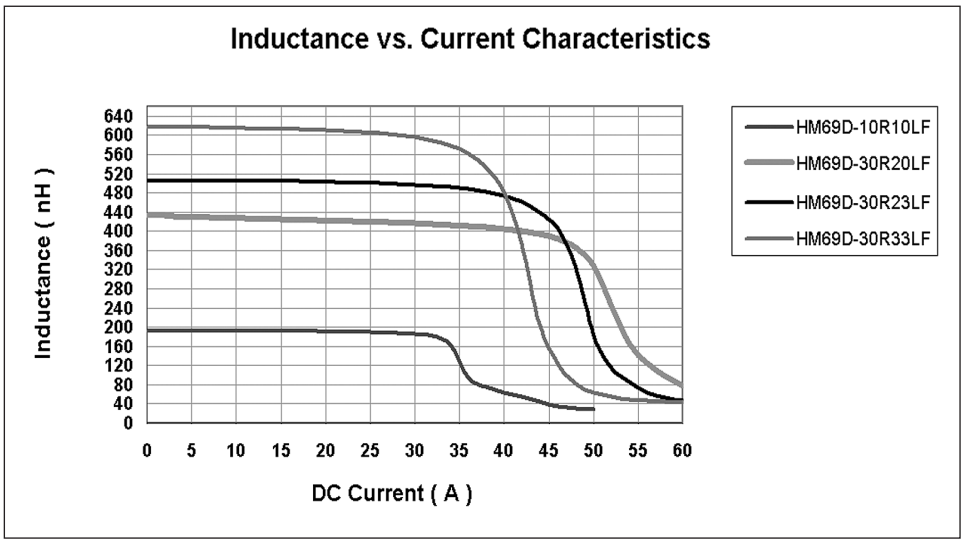


(B) Single Inductor Parallel Connection



Electrical Characteristics @ 25°C (Cont'd)

(C) Single Inductor Series Connection



Packaging

Standard: Embossed Tape & Reel

Reel:	Diameter:		=	13" (330.2mm)
	Capacity:	Case size 10	=	1000 Units
		Case size 30	=	400 Units

Ordering Information

HM69D - 10 R10 LF TR13

- HM69D - Model Series
- 10 - Case Size: 10, 30
- R10 - Inductance Code:
  First 2 digits are significant.
  Last digit denotes the number of trailing zeros.
  For values below 10µH, "R" denotes the decimal point.
- LF - Lead-Free
- TR13 - TR - Tape & Reel Packing, 13 - 13" reel

We reserve the right to change specifications without prior notice.