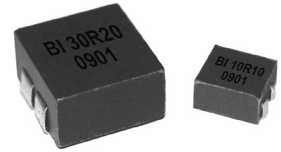


Electrical / Environmental

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

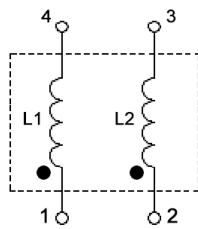
HM69D

Surface Mount Power Bead Coupled Inductors

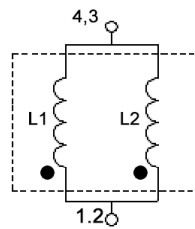


Schematics

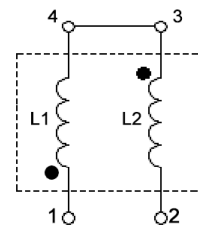
Independent Inductors



Parallel Inductors



Series Inductors



Specifications @ 25°C

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

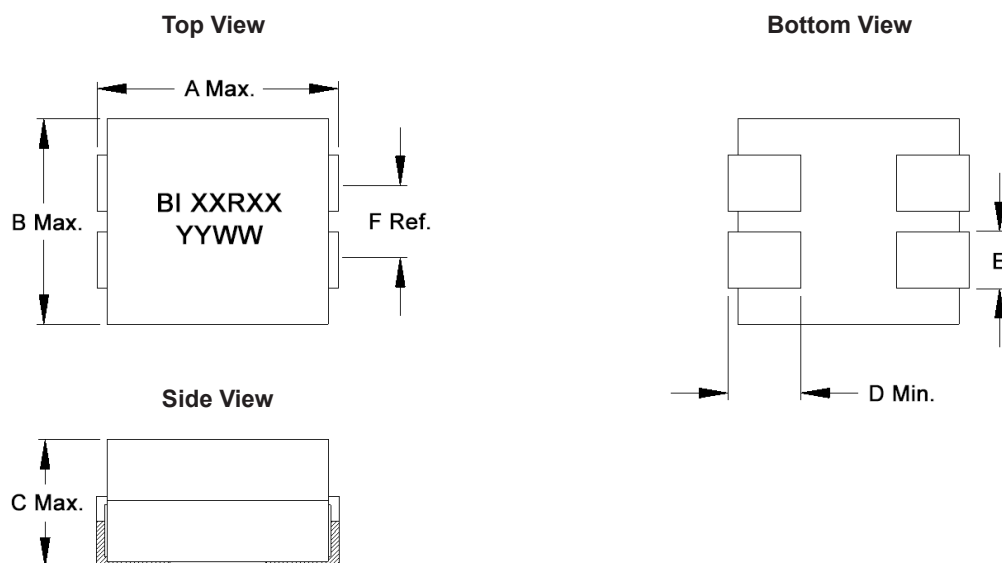
Part Number	Inductance 100kHz, 0.1V				DCR ⁽²⁾ (mΩ Typ.)		I _{rated} ⁽³⁾ @ 25°C		I _{sat} ⁽⁴⁾ @ 25°C		Heating ⁽⁵⁾ Current	
	@ 0 Adc		@ I _{rated}				@ 25°C		@ 25°C		Adc	
	(nH ± 20%)		(nH ± 20%)		(mΩ Typ.)		(Adc)		(Adc)		(Adc)	
	L1	L2	L1	L2	L1	L2	L1	L2	L1	L2	L1	L2
HM69D-10R10LF	100	100	90	90	0.67	0.67	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⁾)

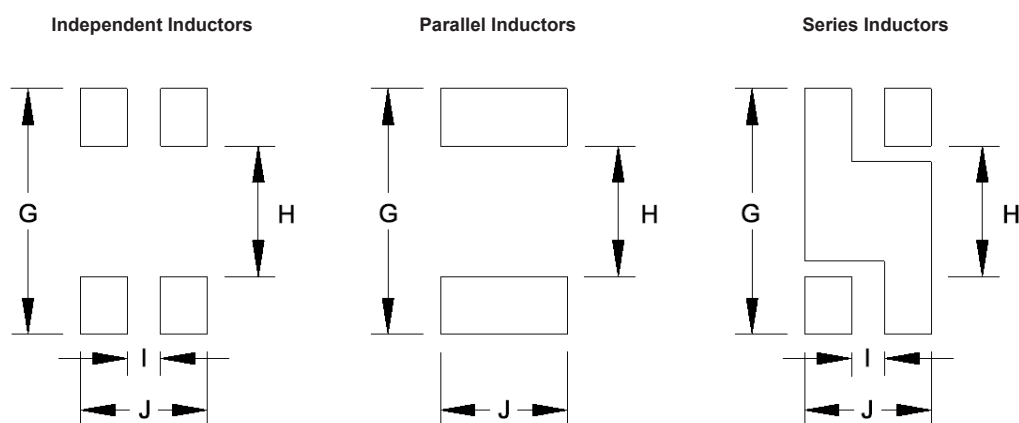
Part Number	Inductance 100kHz, 0.1V		DCR ⁽²⁾ (mΩ Typ.)	I _{rated} ⁽³⁾ @ 25°C (Adc)	I _{sat} ⁽⁴⁾ @ 25°C (Adc)	Heating Current ⁽⁵⁾ (Adc)	Connection
	@ 0 Adc (nH ± 20%)	@ I _{rated} (nH ± 20%)					
	L1	L2					
HM69D-10R10LF	50	45	0.34	60	62	28	Parallel
HM69D-30R20LF	100	90	0.22	95	105	62	
HM69D-30R23LF	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 $\pm 9\%$. 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 determined by soldering the component on a typical application PCB, and then applying the current to the device for 30 minutes.

Outline Dimensions (mm)



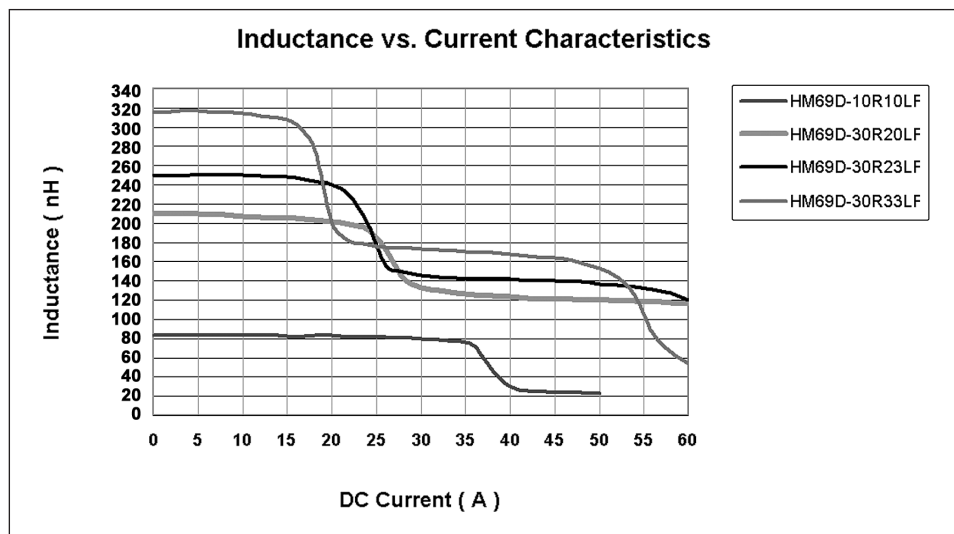
Recommended Solder Pad Layout



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

