

Electrical / Environmental

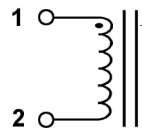
- Operating Temperature Range -40°C to +155°C
- Operating Frequency Up to 800kHz

HM88

High Current Low Loss Sendust
Surface Mount Inductors



Schematic



Specifications @ 25°C

Part Number	Inductance 100 kHz, 0.1 V		$I_{rated}^{(1)}$ (A dc)	Heating ⁽²⁾ Current (A dc)	$I_{sat}^{(3)}$ (A dc)	DCR		Core Loss ⁽⁴⁾ Factor		Height (mm) Max.	Fig.
	@ 0 A dc ($\mu\text{H} \pm 20\%$)	@ I_{rated} ($\mu\text{H Typ.}$)				Typ.	Max.	K1	K2		
HM88-10091R0LF	1.00	0.78	14	21	20	2.16	2.48	1.137E-10	159.16	5.6	1
HM88-14121R0LF	1.00	0.78	25	25	36	1.50	1.75	2.766E-10	88.42	6.5	2

Notes: (1) The rated current (I_{rated}) is the approximate current at which the inductance will be decreased by 20% typical from its initial (zero DC) value.

(2) The heating current is the DC current which causes the component temperature to increase by approximately 40°C.

(3) I_{sat} is the saturated current at which inductance will be decreased by 30% from its initial (zero DC) value.

(4) Core loss approximation is based on published core data.

$$\text{Core Loss} = K1 * (f)^{1.46} * (K2\Delta I)^{2.0}$$

Where: Core loss = in watt.

f = switching frequency in kHz.

K1 and K2 = core loss factor.

ΔI = delta I across the component in Amp.

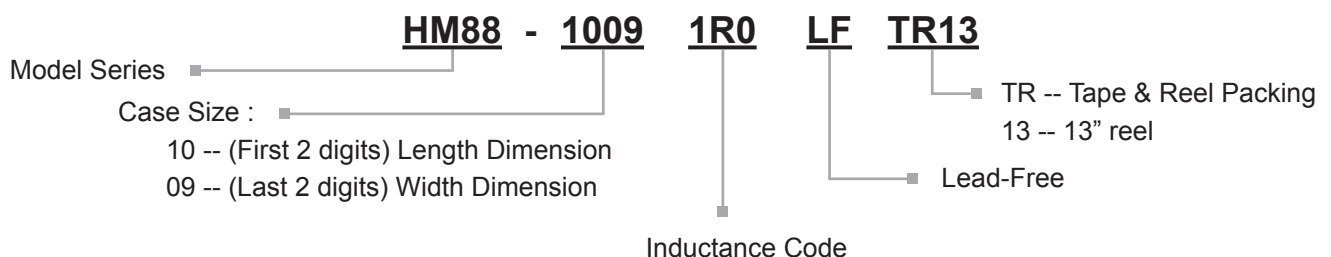
$K2\Delta I$ = peak to peak flux density across the component in Gauss.

Packaging

Standard: Embossed Tape and Reel

Reel:	Diameter:	=	13" (330.2mm)
	Capacity:	Case size 1009	= 500 units
		Case size 1412	= 300 units

Ordering Information



Outline Dimensions (mm)

Figure 1

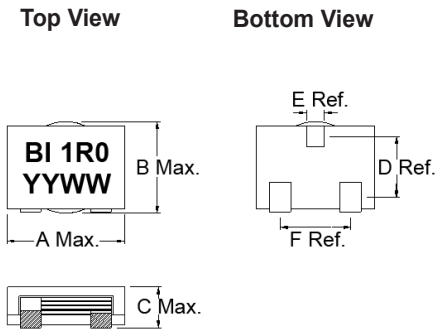
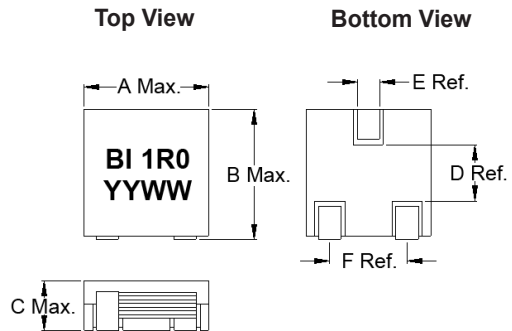
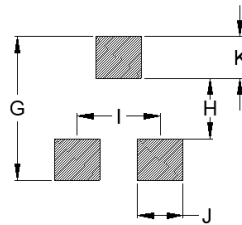


Figure 2

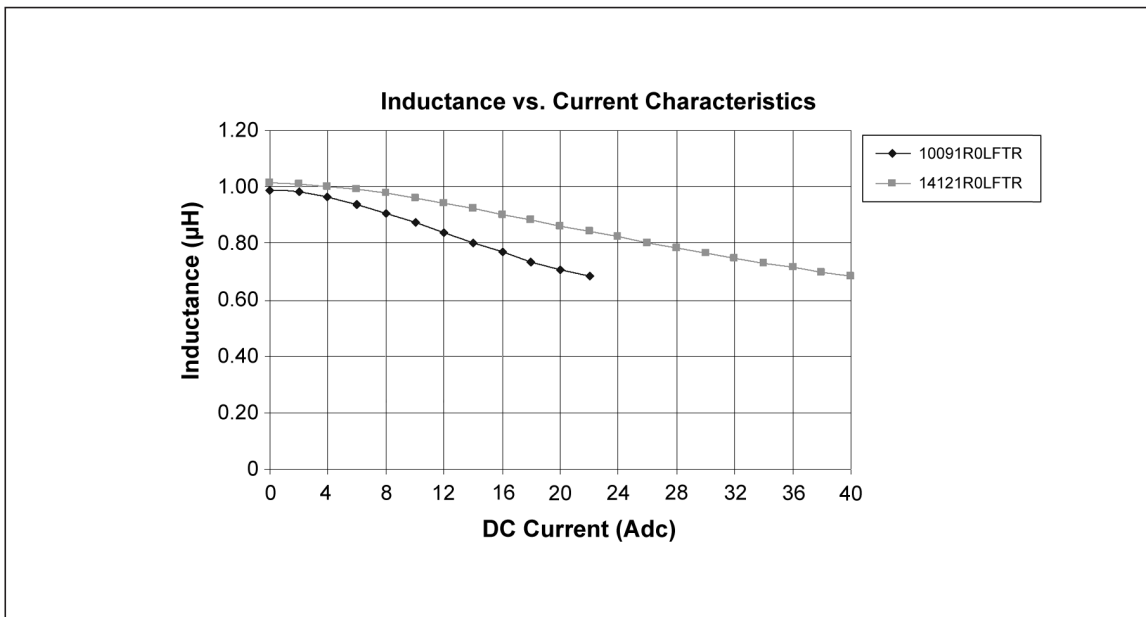


Recommended Solder Pad Layout



Case Size	Fig.	A	B	C	D	E	F	G	H	I	J	K
1009	1	10.5	9.5	5.6	4.8	1.7	6.0	8.0	2.0	6.0	2.6	3.0
1412	2	14.0	12.1	6.5	5.3	2.3	8.5	12.5	5.3	8.6	2.7	3.6

Electrical Characteristics @ 25°C



Electrical Characteristics @ 25°C (Cont'd)

