

SMD Power Inductor

AMIMC0402HP-Series(G)

1. Features

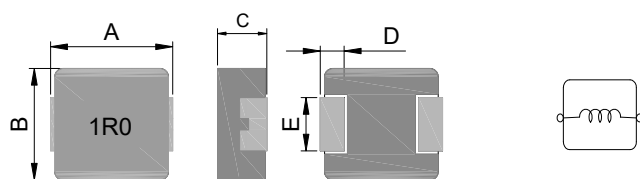
1. Low loss realized with low DCR.
2. High performance realized by metal dust core.
3. Ultra low buzz noise, due to composite construction.
4. 100% Lead(Pb)-Free & Halogen-Free and RoHS compliant.
5. Operating temperature : -40~+125°C (Including self - temperature rise)



2. Applications

Commercial applications
Efficient applications

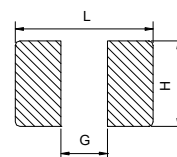
3. Dimensions



A	B	C	D	E
4.45±0.25	4.06±0.25	1.8±0.2	0.76±0.30	2.0±0.20

Unit:mm

Recommend PC Board Pattern



L	G	H
5.2	2.2	2.4

Note: 1.PCB layout is referred to standard IPC-7351B
2. The above PCB layout reference only.
3. Recommend solder paste thickness at 0.12mm and above.

4. Part Numbering

AMIMC	0402	HP	-	1R0	MG
A	B	C		D	E

A: Series

B: Dimension

C: Type

D: Inductance

E: Inductance Tolerance

BxC

1R0=1.0uH

M=±20%

Marking: Black. 1R0

5. Specification

Part Number	Inductance (uH) $\pm 20\%$ @ 0 A	I _{rms} (A)		I _{sat} (A)		DCR (mΩ)	
		Typ	Max	Typ	Max	Typ	Max
AMIMC0402HP-R36MG	0.36	13.0	12.0	10.5	9.5	5.7	6.8
AMIMC0402HP-R47MG	0.47	11.0	10.0	9.0	8.0	7.0	8.4
AMIMC0402HP-R56MG	0.56	10.0	9.0	9.0	8.0	8.5	10.2
AMIMC0402HP-R68MG	0.68	9.5	8.5	8.0	7.2	9.8	11.2
AMIMC0402HP-1R0MG	1.00	8.0	7.3	7.7	7.0	13.8	15.8
AMIMC0402HP-1R2MG	1.20	7.0	6.3	6.5	6.0	15.5	17.8
AMIMC0402HP-1R5MG	1.50	7.0	6.3	6.0	5.5	20.5	23.5
AMIMC0402HP-2R2MG	2.20	5.7	5.2	5.4	4.9	31.0	35.6
AMIMC0402HP-3R3MG	3.30	4.9	4.5	4.3	3.9	42.0	48.3
AMIMC0402HP-4R7MG	4.70	3.8	3.4	3.8	3.4	67.0	77.0
AMIMC0402HP-5R6MG	5.60	3.4	3.1	3.5	3.2	88.0	101.2
AMIMC0402HP-6R8MG	6.80	3.0	2.7	2.8	2.5	110.0	126.5
AMIMC0402HP-8R2MG	8.20	2.8	2.5	2.2	2.0	122.0	140.3
AMIMC0402HP-100MG	10.0	2.6	2.4	2.1	1.9	150.0	172.5
AMIMC0402HP-120MG	12.0	2.1	1.9	1.8	1.6	190.0	218.5

Note:

1. Test frequency : L_s : 100KHz /1.0V.
2. All test data referenced to 25℃ ambient.
3. Testing Instrument(or equ) : Agilent 4284A,E4991A,4339B,KEYSIGHT E4980A/AL,chroma3302,3250,16502.
4. Heat Rated Current (I_{rms}) will cause the coil temperature rise approximately ΔT of 40℃
5. Saturation Current (I_{sat}) will cause L₀ to drop approximately 30%.
6. The part temperature (ambient + temp rise) should not exceed 125℃ under worst case operating conditions.Circuit design,component,PCB trace size and thickness,airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
7. I_{rms} Testing : Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.
8. Rated DC current: The lower value of I_{rms} and I_{sat}.

6. Typical Performance Curves

