

● FEATURES 特性

1. Metallization on ferrite core results in excellent shock resistance and damage-free durability.
2. Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI).
3. Fe base metal material core provides large saturation current.
4. Automatic production ensures high quality and consistency.



● APPLICATIONS 用途

1. Notebooks, desktop computers, servers, graphic cards.
2. Blue -ray disc recorders, set top box , Automotive systems.
3. Portable gaming devices, personal navigation systems, personal multimedia devices

● PART NUMBERING SYSTEM 品名系统

AMPI 3015 S - 3R3 M R
 ① ② ③ ④ ⑤ ⑥

- ① Aillen Metal Alloy Power Inductor
- ② Dimensions:(L×W×H) 【mm】
- ③ Feature type S:Standard Product
- ④ Nominal Inductance Example 1R0 1.0uH
- ⑤ Inductance Tolerance M:±20% N:±30%
- ⑥ Packing: Reel

● SHAPES AND DIMENSIONS 外形尺寸 (Unit:mm)

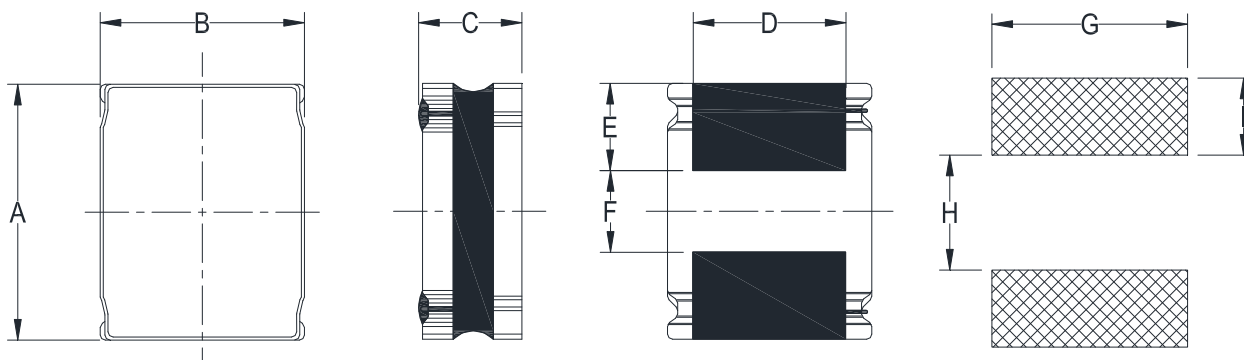


Fig1.

※All products are printed No Marking

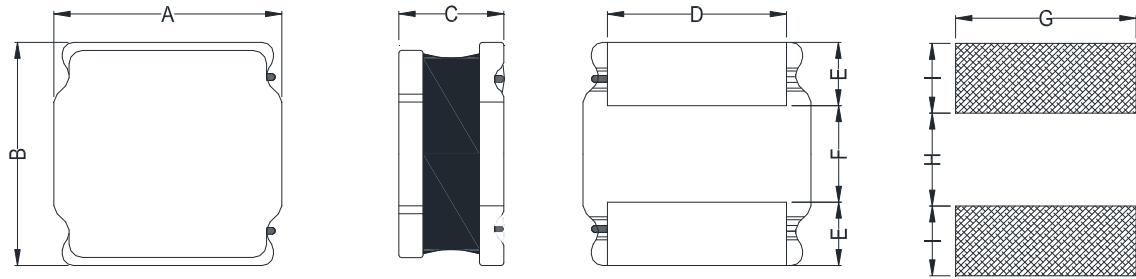


Fig 2.

※All products are printed No Marking

TYPE(型号)	A	B	C Max.	D	E	F	G Ref.	H Ref.	I Ref.	Fig.
AMPI201610S	2.0±0.2	1.6±0.2	1.08	1.6±0.2	0.6±0.2	0.8±0.2	1.60	0.80	0.80	1
AMPI252010S	2.5±0.2	2.0±0.2	1.05	1.5±0.2	0.8±0.2	0.8±0.2	2.00	0.80	0.85	1
AMPI252012S	2.5±0.2	2.0±0.2	1.26	1.5±0.2	0.8±0.2	0.8±0.2	2.00	0.80	0.85	1
AMPI3012S	3.0±0.2	3.0±0.2	1.20	2.3±0.3	1.0±0.3	1.0±0.3	2.70	1.5	0.80	1
AMPI3015S	3.0±0.2	3.0±0.2	1.55	2.55Ref.	0.8Ref.	1.4Ref.	1.50	1.5	0.80	2
AMPI4020S	4.0±0.2	4.0±0.2	2.0	3.3±0.2	1.0±0.2	2.0±0.2	3.70	1.90	1.10	2

● SPECIFICATION TABLE:

AMPI201610S Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	
	1MHz/1V	Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	uH	Ω	Ω	A	A	A	A
Symbol	L	DCR		Isat		Irms	
AMPI201610S-R24MR	0.24±20%	0.040	0.033	4.50	5.50	3.00	3.45
AMPI 201610S-R33MR	0.33±20%	0.049	0.041	4.40	5.20	2.70	3.10
AMPI201610S-R47MR	0.47±20%	0.049	0.041	4.06	4.70	2.70	3.10
AMPI201610S-R56MR	0.56±20%	0.053	0.043	3.80	4.50	2.60	2.80
AMPI 201610S-R68MR	0.68±20%	0.065	0.057	3.50	4.00	2.50	2.80
AMPI 201610S-1R0MR	1.0±20%	0.095	0.078	3.30	3.80	2.00	2.30
AMPI201610S-1R5MR	1.5±20%	0.130	0.110	1.95	2.30	1.70	2.00
AMPI 201610S-2R2MR	2.2±20%	0.180	0.160	1.90	2.15	1.40	1.60
AMPI201610S-3R3MR	3.3±20%	0.307	0.245	1.40	1.60	1.10	1.30
AMPI 201610S-4R7MR	4.7±20%	0.425	0.370	1.10	1.40	0.90	1.00
AMPI201610S-6R8MR	6.8±20%	0.620	0.500	0.95	1.10	0.70	0.82
AMPI201610S-8R2MR	8.2±20%	0.870	0.670	0.86	1.00	0.66	0.76
AMPI201610S-100MR	10±20%	0.875	0.700	0.80	0.95	0.60	0.70
AMPI201610S-150MR	15±20%	1.70	1.30	0.69	0.75	0.36	0.42



● SPECIFICATION TABLE:

AMPI252010S Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	
	1MHz/1V	Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	uH	Ω	Ω	A	A	A	A
Symbol	L	DCR		Isat		Irms	
AMPI252010S-R24MR	0.24 ± 20%	0.033	0.025	6.10	7.10	3.70	4.50
AMPI252010S-R33MR	0.33 ± 20%	0.039	0.033	4.80	5.50	3.50	4.05
AMPI252010S-R47MR	0.47 ± 20%	0.045	0.040	4.40	5.20	3.20	3.60
AMPI252010S-R68MR	0.68 ± 20%	0.059	0.049	3.20	3.60	2.75	3.20
AMPI252010S-1R0MR	1.0 ± 20%	0.085	0.071	3.10	3.50	2.20	2.50
AMPI252010S-1R5MR	1.5 ± 20%	0.106	0.090	2.60	3.00	2.00	2.30
AMPI252010S-2R2MR	2.2 ± 20%	0.155	0.129	1.90	2.20	1.50	1.80
AMPI252010S-3R3MR	3.3 ± 20%	0.235	0.196	1.60	1.80	1.20	1.40
AMPI252010S-4R7MR	4.7 ± 20%	0.290	0.255	1.30	1.50	1.00	1.10
AMPI252010S-6R8MR	6.8 ± 20%	0.480	0.380	1.00	1.15	0.95	1.00
AMPI252010S-100MR	10 ± 20%	0.740	0.630	0.90	1.00	0.65	0.75

AMPI252012S Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	
	1MHz/1V	Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	uH	Ω	Ω	A	A	A	A
Symbol	L	DCR		Isat		Irms	
AMPI252012S-R24MR	0.24 ± 20%	0.023	0.019	6.50	7.80	4.05	4.70
AMPI252012S-R33MR	0.33 ± 20%	0.028	0.023	5.35	6.30	3.70	4.30
AMPI252012S-R47MR	0.47 ± 20%	0.035	0.029	4.90	5.60	3.45	4.00
AMPI252012S-R68MR	0.68 ± 20%	0.045	0.039	3.80	4.50	3.15	3.60
AMPI 252012S-1R0MR	1.0 ± 20%	0.054	0.048	3.60	4.20	3.00	3.40
AMPI252012S-1R5MR	1.5 ± 20%	0.078	0.060	2.90	3.50	2.40	2.80
AMPI252012S-2R2MR	2.2 ± 20%	0.120	0.100	2.60	3.00	1.90	2.15
AMPI252012S-3R3MR	3.3 ± 20%	0.215	0.175	1.70	2.10	1.50	1.80
AMPI252012S-4R7MR	4.7 ± 20%	0.260	0.225	1.60	1.90	1.25	1.45
AMPI252012S-6R8MR	6.8 ± 20%	0.366	0.305	1.20	1.40	0.95	1.10
AMPI252012S-100MR	10 ± 20%	0.480	0.435	1.10	1.35	0.85	1.00



● SPECIFICATION TABLE:

AMPI3012S Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	
	1MHz/1V	Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	uH	Ω	Ω	A	A	A	A
Symbol	L	DCR		Isat		Irms	
AMPI3012S-R22MR	0.22 ± 20%	0.026	0.020	9.30	10.0	4.20	4.80
AMPI3012S-R33MR	0.33 ± 20%	0.032	0.024	7.20	8.90	4.10	4.80
AMPI3012S-R47MR	0.47 ± 20%	0.040	0.031	6.80	8.00	3.80	4.20
AMPI3012S-R68MR	0.68 ± 20%	0.046	0.038	5.80	6.80	3.10	3.60
AMPI3012S-1R0MR	1.0 ± 20%	0.054	0.046	4.20	5.40	2.70	3.10
AMPI3012S-1R5MR	1.5 ± 20%	0.074	0.062	3.40	4.10	2.50	2.90
AMPI 3012S-2R2MR	2.2 ± 20%	0.108	0.090	2.80	3.35	2.05	2.35
AMPI3012S-3R3MR	3.3 ± 20%	0.185	0.144	2.20	2.60	1.50	1.80
AMPI 3012S-4R7MR	4.7 ± 20%	0.255	0.215	2.00	2.50	1.15	1.35
AMPI3012S-6R8MR	6.8 ± 20%	0.340	0.290	1.60	1.90	1.10	1.25
AMPI3012S-100MR	10 ± 20%	0.474	0.395	1.20	1.45	1.00	1.15
AMPI3012S-150MR	15 ± 20%	0.740	0.610	1.10	1.30	0.53	0.60
AMPI3012S-220MR	22 ± 20%	1.20	0.960	0.96	1.15	0.40	0.46

AMPI3015S Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	
	1MHz/1V	Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	uH	Ω	Ω	A	A	A	A
Symbol	L	DCR		Isat		Irms	
AMPI3015S-R22MR	0.22 ± 20%	0.019	0.0154	8.80	11.0	5.00	5.90
AMPI3015S-R24MR	0.24 ± 20%	0.019	0.0154	8.60	10.6	5.00	5.90
AMPI3015S-R33MR	0.33 ± 20%	0.021	0.016	8.00	10.0	4.90	5.80
AMPI3015S-R47MR	0.47 ± 20%	0.026	0.020	7.60	9.50	4.60	5.00
AMPI3015S-R68MR	0.68 ± 20%	0.0365	0.028	7.00	8.30	3.80	4.50
AMPI 3015S-1R0MR	1.0 ± 20%	0.048	0.037	5.80	7.00	3.30	3.80
AMPI3015S-1R5MR	1.5 ± 20%	0.072	0.055	4.60	5.50	2.20	2.70
AMPI 3015S-2R2MR	2.2 ± 20%	0.095	0.074	3.70	4.60	2.20	2.50
AMPI 3015S-3R3MR	3.3 ± 20%	0.150	0.110	3.40	3.40	2.00	2.30
AMPI 3015S-4R7MR	4.7 ± 20%	0.185	0.150	2.50	3.00	1.70	1.90
AMPI 3015S-6R8MR	6.8 ± 20%	0.320	0.245	2.00	2.40	1.20	1.35
AMPI 3015S-100MR	10 ± 20%	0.450	0.350	1.60	2.00	1.10	1.20
AMPI3015S-150MR	15 ± 20%	0.610	0.460	1.45	1.75	1.10	1.20
AMPI3015S-220MR	22 ± 20%	0.910	0.700	1.00	1.20	0.56	0.66
AMPI3015S-470MR	47 ± 20%	1.900	1.450	0.80	0.86	0.42	0.48

● SPECIFICATION TABLE:

AMPI4020S Series

Part Number	Inductance 1MHz/1V	DC Resistance		Saturation Current		Heat Rating Current	
		Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	uH	Ω	Ω	A	A	A	A
Symbol	L	DCR		Isat		Irms	
AMPI4020S-R24MR	0.24±20%	0.017	0.013	14.0	17.0	6.00	7.00
AMPI4020S-R33MR	0.33±20%	0.020	0.015	13.0	16.0	5.90	6.80
AMPI4020S-R47MR	0.47±20%	0.022	0.016	11.0	12.0	5.90	6.80
AMPI4020S-R68MR	0.68±20%	0.0245	0.0192	9.00	11.5	5.80	6.70
AMPI4020S-1R0MR	1.0±20%	0.028	0.023	8.70	11.0	5.80	6.70
AMPI4020S-1R5MR	1.5±20%	0.038	0.032	7.70	9.60	5.20	6.00
AMPI4020S-2R2MR	2.2±20%	0.056	0.046	6.00	7.50	4.00	4.80
AMPI4020S-3R3MR	3.3±20%	0.088	0.073	4.70	5.90	3.40	4.00
AMPI4020S-4R7MR	4.7±20%	0.115	0.095	4.00	4.90	2.85	3.30
AMPI4020S-6R8MR	6.8±20%	0.160	0.130	3.00	4.20	2.40	2.80
AMPI4020S-8R2MR	8.2±20%	0.220	0.175	2.90	3.80	2.10	2.40
AMPI4020S-100MR	10±20%	0.220	0.190	2.80	3.50	2.00	2.35
AMPI4020S-150MR	15±20%	0.400	0.305	2.10	2.80	1.00	1.20
AMPI4020S-220MR	22±20%	0.545	0.415	1.30	1.50	0.95	1.10
AMPI4020S-330MR	33±20%	0.850	0.650	1.20	1.40	0.70	0.86
AMPI4020S-470MR	47±20%	1.20	0.950	1.10	1.30	0.56	0.66

Note:※1: Rated current: Isat(max.)or Irms(max.),whichever is smaller;

※2: Saturation Current: Max. Value, DC current at which the inductance drops less than 30% from its value without current; Typ. Value, DC current at which the inductance drops 30% from its value without current;

※3: Irms: DC current that causes the temperature rise (ΔT) from 20°C ambient.

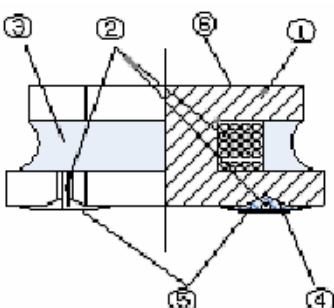
For Max. Value, $\Delta T < 40^\circ\text{C}$; for Typ. Value, ΔT is approximate 40°C.

The part temperature (ambient + temp. rise) should not exceed 125°C under worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

※4: Absolute maximum voltage: DC 40V

Typical Electrical Characteristics: Please refer to appendix

Structure



NO.	Components	Material
①	Core	Soft magnetic Metal
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	Substrate	FeNiCu/Ag
⑤	Top Electrodes	Sn alloy
⑥	Marking	Nitrocellulose