

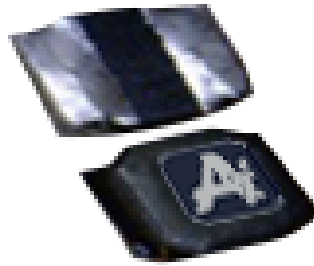


● FEATURE

- 1. Low profile and compact size
- 2. Low DC resistance

● APPLICATION

- 1. LCD panels
- 2. Digital camera , PDA and others



PIA3012
PIA3015
PIA6045

PIA4012
PIA4018
PIA6012

● ORDERING INFORMATION

PIA3012

PN

-1R0

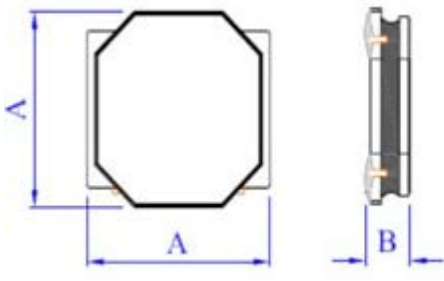
Inductance

T

M: $\pm 20\%$

N: $\pm 30\%$

● SHAPE AND DIMENSION



● SCHEMATICS AND LAND PATTERNS(mm)





● SPECIFICATION

Dimension in mm

TYPE	A	B	C	G	I	H
PIA3010	3.00±0.20	1.00 MAX	1.60 REF.	3.1	1.4	2.7
PIA3012	3.00±0.20	1.20 MAX	1.60 REF.	3.1	1.4	2.7
PIA3015	3.00±0.20	1.50 MAX	1.60 REF.	3.1	1.4	2.7
TPIA3015	3.00±0.20	1.50 MAX	1.60 REF.	3.3	0.8	3.0
PIA4010	4.00±0.20	1.00 MAX	1.40 REF.	4.2	1.6	4.2
PIA4012	4.00±0.20	1.20 MAX	1.40 REF.	4.2	1.6	4.2
PIA4018	4.00±0.20	1.80 MAX	1.40 REF.	4.2	1.6	3.7
PIA4026	4.00±0.40	2.60 MAX		4.2	1.6	3.7
PIA4030	4.00±0.20	3.00 MAX		4.2	1.6	3.7
PIA5020	5.00±0.40	2.00 MAX	2.00 REF.	5.2	2.1	5.2
PIA5040	5.00±0.40	4.00 MAX	2.40 REF.	5.2	2.1	5.2
PIA6010	6.00±0.20	1.00 MAX	2.70 TYP.	6.2	2.8	6.2
PIA6012	6.00±0.20	1.20 MAX	2.70 TYP.	6.0	3.7	5.7
PIA6020	6.00±0.40	2.00 MAX		6.3	2.0	6.3
PIA6028	6.00±0.40	2.80 MAX	2.70 TYP.	6.3	2.0	6.3
PIA6045	6.00±0.40	4.50 MAX		6.3	2.0	6.3
PIA8020	8.00±0.40	2.00 MAX		8.2	3.6	8.2
PIA8040	8.00±0.40	4.00 MAX		8.2	3.6	8.2



●ELECTRICAL CHARACTERISTICS

PART NUMBER	L(uH)	DCR(Ω Max)	Isat(A)	Irms(A)
PIA3010-1R0M	1.0 \pm 20%	0.078	1.30	1.40
PIA3010-1R0N	1.0 \pm 30%	0.078	1.30	1.40
PIA3010-1R5N	1.5 \pm 30%	0.096	1.20	1.30
PIA3010-2R2M	2.2 \pm 20%	0.114	1.20	1.20
PIA3010-3R3M	3.3 \pm 20%	0.168	0.87	1.00
PIA3010-4R7M	4.7 \pm 20%	0.228	0.90	0.90
PIA3010-6R8M	6.8 \pm 20%	0.360	0.61	0.63
PIA3010-100M	10 \pm 20%	0.540	0.50	0.51
PIA3010-150M	15 \pm 20%	0.888	0.40	0.40
PIA3010-220M	22 \pm 20%	0.924	0.35	0.35
PIA3010-330M	33 \pm 20%	1.860	0.26	0.275
PIA3010-470M	47 \pm 20%	1.764	0.22	0.235
PIA3012-1R0N	1.0 \pm 30%	0.0672	1.90	1.80
PIA3012-1R5N	1.5 \pm 30%	0.072	1.36	1.40
PIA3012-2R2M	2.2 \pm 20%	0.096	1.10	1.20
PIA3012-3R3M	3.3 \pm 20%	0.120	0.91	1.05
PIA3012-3R3MA	3.3 \pm 20%	0.120	1.50	1.35
PIA3012-4R7M	4.7 \pm 20%	0.168	0.88	0.98
PIA3012-4R7MA	4.7 \pm 20%	0.192	0.95	0.98
PIA3012-6R8M	6.8 \pm 20%	0.282	0.80	0.85
PIA3012-100M	10 \pm 20%	0.348	0.70	0.75
PIA3012-150M	15 \pm 20%	0.540	0.44	0.485
PIA3012-220M	22 \pm 20%	0.756	0.375	0.42
PIA3012-330M	33 \pm 20%	1.236	0.31	0.33
PIA3012-470M	47 \pm 20%	1.740	0.25	0.28

Note1. Measurement frequency of Inductance value : at 100kHz, 0.25V

Note2. Measurement ambient temperature of L, DCR and IDC: at 25°C

Note3. Isat: $\Delta L/L \leq 30\%$ (This indicates the value of current when the inductances is 30% lower than its initial value at D.C. superimposition)

Note4. Irms: D.C. current when at $\Delta t=40^\circ\text{C}$ (typ.).($T_a=25^\circ\text{C}$)



PART NUMBER	L(uH)	DCR(ΩMax)	Isat(A)	Irms(A)
PIA3015-1R0N	1.0±30%	0.036	2.10	2.10
PIA3015-1R5N	1.5±30%	0.048	1.80	1.82
PIA3015-2R2M	2.2±20%	0.072	1.50	1.65
PIA3015-3R3M	3.3±20%	0.096	1.21	1.23
PIA3015-4R7M	4.7±20%	0.144	1.10	1.10
PIA3015-6R8M	6.8±20%	0.192	0.87	0.88
PIA3015-100M	10±20%	0.276	0.70	0.71
PIA3015-100MA	10±20%	0.325	0.72	0.77
PIA3015-150M	15±20%	0.432	0.56	0.56
PIA3015-220M	22±20%	0.624	0.55	0.60
PIA3015-330M	33±20%	1.008	0.39	0.37
PIA3015-470M	47±20%	1.608	0.32	0.30
TPIA3015-2R2MA	2.2±20%	0.072	2.10	1.65
TPIA3015-680MA	68±20%	1.920	0.31	0.33

Note: Measurement frequency of Inductance value: at 100kHz, 0.25V

PART NUMBER	L(uH)	DCR(ΩMax)	Isat(A)	Irms(A)
PIA4010-1R5N	1.5±30%	0.104	1.50	1.50
PIA4010-2R2M	2.2±20%	0.148	1.30	1.30
PIA4010-3R3M	3.3±20%	0.171	1.25	1.25
PIA4010-4R7M	4.7±20%	0.260	1.20	1.20
PIA4010-6R8M	6.8±20%	0.360	1.00	1.00
PIA4010-100M	10±20%	0.533	0.80	0.80
PIA4010-220M	22±20%	1.360	0.36	0.36
PIA4012-2R2M	2.2±20%	0.143	1.60	1.40
PIA4012-2R2MA	2.2±20%	0.143	2.00	1.40
PIA4012-3R3M	3.3±20%	0.197	1.40	1.35
PIA4012-4R7M	4.7±20%	0.270	1.30	1.30
PIA4012-6R8M	6.8±20%	0.360	1.00	1.00
PIA4012-8R2M	8.2±20%	0.396	0.90	0.90
PIA4012-100M	10±20%	0.480	0.80	0.80

Note: Measurement frequency of Inductance value: at 100kHz.



PART NUMBER	L(uH)	DCR($\Omega \pm 20\%$)	Isat(A)	Irms(A)
PIA4018-1R0N	1.0 $\pm 30\%$	0.045	4.00	3.20
PIA4018-2R2M	2.2 $\pm 20\%$	0.070	3.00	2.20
PIA4018-2R2N	2.2 $\pm 30\%$	0.070	3.00	2.20
PIA4018-3R3N	3.3 $\pm 30\%$	0.087	2.30	2.00
PIA4018-4R7M	4.7 $\pm 20\%$	0.135	2.00	1.70
PIA4018-4R7N	4.7 $\pm 30\%$	0.135	2.00	1.70
PIA4018-6R8M	6.8 $\pm 20\%$	0.175	1.60	1.45
PIA4018-6R8N	6.8 $\pm 30\%$	0.174	1.60	1.45
PIA4018-100M	10 $\pm 20\%$	0.260	1.30	1.20
PIA4018-150M	15 $\pm 20\%$	0.385	1.10	0.85
PIA4018-220M	22 $\pm 20\%$	0.542	0.90	0.72
PIA4018-330M	33 $\pm 20\%$	0.824	0.70	0.55
PIA4018-470M	47 $\pm 20\%$	1.062	0.55	-
PIA4018-101M	100 $\pm 20\%$	2.800	0.34	0.22
PIA4018-221M	220 $\pm 20\%$	4.500	0.30	0.18

Note: Measurement frequency of Inductance value: at 100kHz, 1V.

PART NUMBER	L(uH)	DCR(ΩMax)	Isat(A)	Irms(A)
PIA4026-1R2N	1.2 $\pm 30\%$	0.045	3.10	2.30
PIA4026-2R2M	2.2 $\pm 20\%$	0.060	2.10	1.97
PIA4026-3R3M	3.3 $\pm 20\%$	0.070	1.80	1.70
PIA4026-4R7M	4.7 $\pm 20\%$	0.080	1.45	1.60
PIA4026-6R8M	6.8 $\pm 20\%$	0.090	1.30	1.50
PIA4026-100M	10 $\pm 20\%$	0.150	1.00	1.30
PIA4026-150M	15 $\pm 20\%$	0.250	0.90	1.10
PIA4026-220M	22 $\pm 20\%$	0.300	0.61	0.90
PIA4026-330M	33 $\pm 20\%$	0.450	0.54	0.80
PIA4026-470M	47 $\pm 20\%$	0.650	0.41	0.65

Note: Measurement frequency of Inductance value: at 100kHz.

PART NUMBER	L(uH)	DCR(ΩMax)	Isat(A)	Irms(A)
PIA4030-330MA	33 $\pm 20\%$	0.500	1.10	0.84

Note: Measurement frequency of Inductance value: at 100kHz, 0.25V.



PART NUMBER	L(uH)	DCR(ΩMax)	Isat(A)	Irms(A)
PIA5020-1R0T	1.0	0.040	5.10	4.00
PIA5020-1R5T	1.5	0.048	4.20	3.50
PIA5020-2R2T	2.2	0.060	3.40	3.20
PIA5020-3R3T	3.3	0.100	3.00	2.80
PIA5020-4R7T	4.7	0.120	2.20	2.20
PIA5020-5R6T	5.6	0.150	2.05	2.00
PIA5020-6R8T	6.8	0.180	2.00	1.80
PIA5020-100T	10	0.250	1.60	1.60
PIA5020-150T	15	0.400	1.30	1.20
PIA5020-220T	22	0.450	1.00	1.00
PIA5020-330T	33	0.750	0.80	0.75
PIA5020-470T	47	1.100	0.65	0.65

Note: Measurement frequency of Inductance value: at 100kHz, 1V.

PART NUMBER	L(uH)	DCR($\Omega$$\pm$30%)	Isat(A)	Irms(A)
PIA5040-1R0T	1.0	0.014	7.50	4.60
PIA5040-1R5T	1.5	0.016	7.10	4.40
PIA5040-2R2T	2.2	0.021	5.70	3.70
PIA5040-3R3T	3.3	0.026	4.80	3.50
PIA5040-4R7T	4.7	0.032	4.20	3.20
PIA5040-6R8T	6.8	0.050	3.30	2.40
PIA5040-100T	10	0.070	2.80	2.20
PIA5040-150T	15	0.110	2.30	1.80
PIA5040-220T	22	0.175	1.80	1.40
PIA5040-330T	33	0.250	1.50	1.10
PIA5040-470T	47	0.390	1.20	0.90

Note: Measurement frequency of Inductance value: at 100kHz, 1V.



PART NUMBER	L(uH)	DCR(Ω Max)	Isat(A)	Irms(A)
PIA6010-2R2M	2.2±20%	0.155	2.20	1.90
PIA6010-3R3M	3.3±20%	0.205	1.90	1.50
PIA6010-4R7M	4.7±20%	0.277	1.65	1.40
PIA6010-6R8M	6.8±20%	0.350	1.60	1.22
PIA6010-8R2M	8.2±20%	0.390	1.20	1.21
PIA6010-100M	10±20%	0.400	1.40	1.20
PIA6012-2R2M	2.2±20%	0.120	2.60	1.62
PIA6012-3R3M	3.3±20%	0.175	2.15	1.70
PIA6012-4R7M	4.7±20%	0.220	1.85	1.50
PIA6012-5R6M	5.6±20%	0.240	1.70	1.60
PIA6012-6R8M	6.8±20%	0.280	1.60	1.20
PIA6012-8R2M	8.2±20%	0.320	1.45	1.15
PIA6012-100M	10±20%	0.430	1.40	1.10
PIA6020-0R8N	0.8±30%	0.026	5.50	3.80
PIA6020-1R5N	1.5±30%	0.0338	4.00	3.20
PIA6020-2R2M	2.2±20%	0.049	3.20	2.70
PIA6020-3R3M	3.3±20%	0.070	2.80	2.60
PIA6020-4R7M	4.7±20%	0.088	2.40	2.00
PIA6020-6R8M	6.8±20%	0.111	2.00	1.80
PIA6020-100M	10±20%	0.179	1.70	1.40
PIA6020-220M	22±20%	0.377	1.05	0.95

Note: Measurement frequency of Inductance value: at 100kHz



PART NUMBER	L(uH)	DCR(Ω Max)	Isat(A)	Irms(A)
PIA6028-1R0N	1.0 \pm 30%	0.017	7.60	5.20
PIA6028-1R5N	1.5 \pm 30%	0.0208	6.30	4.80
PIA6028-2R2N	2.2 \pm 30%	0.026	5.40	4.00
PIA6028-3R3N	3.3 \pm 30%	0.0364	4.30	3.50
PIA6028-4R7N	4.7 \pm 30%	0.0494	3.70	3.20
PIA6028-6R0N	6.0 \pm 30%	0.0585	3.30	2.80
PIA6028-6R8N	6.8 \pm 30%	0.065	3.10	2.70
PIA6028-100M	10 \pm 20%	0.0845	2.50	2.30
PIA6028-150M	15 \pm 20%	0.1235	2.00	1.80
PIA6028-220M	22 \pm 20%	0.1755	1.60	1.50
PIA6028-330M	33 \pm 20%	0.286	1.30	1.40
PIA6028-470M	47 \pm 20%	0.416	1.10	1.00
PIA6028-680M	68 \pm 20%	0.546	0.98	0.90
PIA6028-101M	100 \pm 20%	0.780	0.82	0.80

Note: Measurement frequency of Inductance value: at 100kHz

PART NUMBER	L(uH)	DCR(Ω \pm 30%)	Isat(A)	Irms(A)
PIA6045-1R0N	1.0 \pm 30%	0.012	12.20	6.50
PIA6045-1R5N	1.5 \pm 30%	0.015	10.40	5.90
PIA6045-1R8N	1.8 \pm 30%	0.017	9.60	5.60
PIA6045-2R2N	2.2 \pm 30%	0.019	8.80	5.00
PIA6045-3R3N	3.3 \pm 30%	0.024	7.50	4.30
PIA6045-4R7M	4.7 \pm 20%	0.031	6.70	3.90
PIA6045-5R1M	5.1 \pm 20%	0.033	6.00	3.50
PIA6045-6R8M	6.8 \pm 20%	0.043	5.30	3.20
PIA6045-6R8MA	6.8 \pm 20%	0.043	5.30	3.40
PIA6045-100M	10 \pm 20%	0.057	4.50	2.70
PIA6045-100MA	10 \pm 20%	0.057	4.00	2.70
PIA6045-150M	15 \pm 20%	0.080	3.40	2.20
PIA6045-220M	22 \pm 20%	0.125	3.00	1.90
PIA6045-270M	27 \pm 20%	0.160	2.50	1.40
PIA6045-330M	33 \pm 20%	0.165	2.30	1.30
PIA6045-470M	47 \pm 20%	0.245	1.90	1.20
PIA6045-680M	68 \pm 20%	0.330	1.60	1.00
PIA6045-101M	100 \pm 20%	0.500	1.30	0.80
PIA6045-331M	330 \pm 20%	1.800	0.70	0.35
PIA6045-102M	1000 \pm 20%	6.000	0.40	0.22

Note: Measurement frequency of Inductance value: at 100kHz



PART NUMBER	L(uH)	DCR(ΩMax)	Isat(A)	Irms(A)
PIA8020-1R0N	1.0 \pm 30%	0.030	5.85	4.50
PIA8020-2R2N	2.2 \pm 30%	0.040	5.40	4.00
PIA8020-3R3N	3.3 \pm 30%	0.045	4.95	3.60
PIA8020-4R7N	4.7 \pm 30%	0.070	3.60	2.70
PIA8020-6R8N	6.8 \pm 30%	0.100	3.15	2.10
PIA8020-8R2N	8.2 \pm 30%	0.110	2.70	2.00
PIA8020-100M	10 \pm 20%	0.120	2.50	2.00

Note: Measurement frequency of Inductance value: at 100kHz, 0.25V

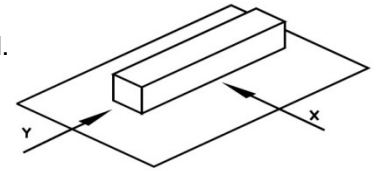
PART NUMBER	L(uH)	DCR($\Omega$$\pm$30%)	Isat(A)	Irms(A)
PIA8040-R50N	0.5 \pm 30%	0.007	12.00	10.00
PIA8040-1R4N	1.4 \pm 30%	0.009	10.80	7.80
PIA8040-1R5N	1.5 \pm 30%	0.010	10.00	7.50
PIA8040-2R0N	2.0 \pm 30%	0.012	9.60	7.40
PIA8040-2R2N	2.2 \pm 30%	0.012	9.20	7.20
PIA8040-3R3N	3.3 \pm 30%	0.015	7.50	6.00
PIA8040-3R6N	3.6 \pm 30%	0.015	5.30	4.90
PIA8040-4R7N	4.7 \pm 30%	0.018	6.00	5.50
PIA8040-6R8M	6.8 \pm 20%	0.025	5.40	5.10
PIA8040-8R2M	8.2 \pm 20%	0.033	5.00	3.90
PIA8040-100M	10 \pm 20%	0.038	4.30	3.80
PIA8040-150M	15 \pm 20%	0.050	3.60	3.20
PIA8040-220M	22 \pm 20%	0.080	2.80	2.60
PIA8040-330M	33 \pm 20%	0.110	2.30	2.00
PIA8040-470M	47 \pm 20%	0.160	1.90	1.75
PIA8040-680M	68 \pm 20%	0.240	1.70	1.45
PIA8040-101M	100 \pm 20%	0.340	1.40	1.10

Note: Measurement frequency of Inductance value: at 100kHz, 0.25V

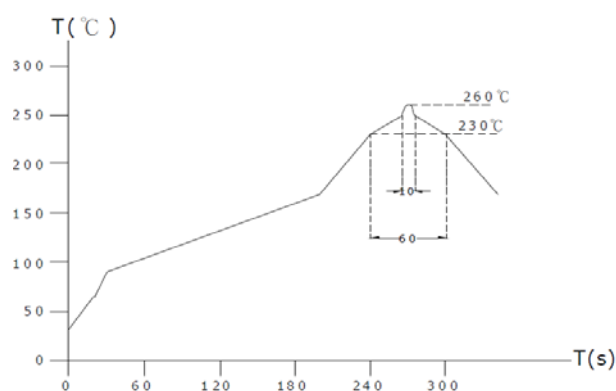


●GENERAL CHARACTERISTICS

1. Operating temperature range: -40 TO + 85°C (Includes temperature when the coil is heated)
2. External appearance: On visual inspection, the coil has external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil.
Push in two directions of X.Y with withstanding at below conditions.
Terminal should not peel off. (refer to figure at right) 0.5kg
4. Insulating resistance: Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength: No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics: Inductance coefficient $(0\sim 2,000)\times 10^{-6}/^{\circ}\text{C}$ (-25~+80°C).
7. Humidity characteristics(Moisture Resistance): Inductance deviation within $\pm 5\%$, after 96 hours in 90~95% relative humidity at $40 \pm 2^{\circ}\text{C}$ and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within $\pm 5\%$, after vibration for 1 hour. In each of three orientations at sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance: Inductance deviation within $\pm 5\%$, after being dropped once with 981m/s² (100G) shock attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds.
11. Storage environment
Storage condition:
Temperature Range: 10°C ~ 35°C (Generally: 21°C ~ 31°C)
Humidity Range: 50% ~ 80% RH (Generally: 65% ~ 75%)
Transportation condition:
Temperature Range: -35°C ~ 85°C, Humidity Range: 50% ~ 95% RH
12. Use components within 6 months. If 6 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:



Lead - free heat endurance test



Lead-free the recommended reflow condition

