•FEATURE

1. Low Profile and Compact Size
2. Power supply PWM circuit input / output inductor
3. Power line noise suppression
4. DC-DC Converter
5. Pass CE/FCC purpose
6. Operating Temperature: -40~+125 ℃
7. Compliant with AEC-Q200

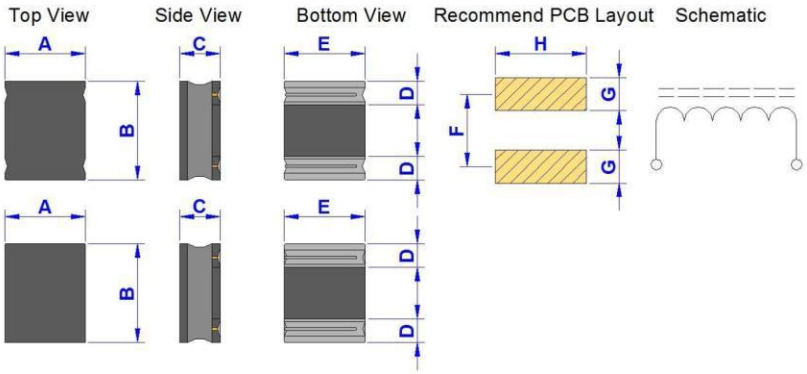
•APPLICATION

TFT, WIFI, Mobile Phone, MP3, PDA, Digital Cameras, TVs, LCD, Laptops, PCs.

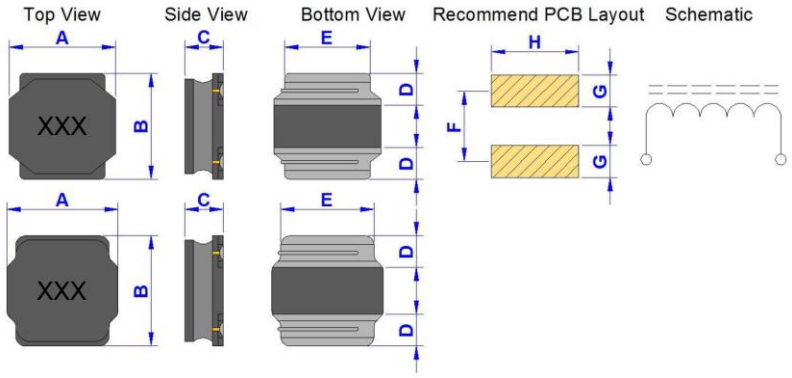
•ORDERING INFORMATION

PIA	2016	U	-R22	M	Q
Series	Dimension	Material code	Inductance	Tolerance	AEC-Q
	L*W*H = 2.0*1.6*1.05		(uH)	M=±20%,N=±30%	

•SHAPE AND DIMENSION



PIA2510
PIA2512



PIA2016
PIA3012
PIA3015
PIA4012
PIA4018
PIA4020
PIA4030
PIA5020
PIA5030
PIA5040
PIA6020
PIA6028
PIA6045
PIA8040

•SPECIFICATION

Unit: mm

TYPE	A	B	C	D	E	F	G	H
2016	2.0±0.3	1.6±0.3	1.05 Max	0.80 Ref.	1.2 Ref.	0.7 Ref.	0.70 Ref.	1.7 Ref.
2510	2.5±0.3	2.0±0.3	1.00 Max	1.00 Ref.	2.0 Ref.	0.8 Ref.	0.85 Ref.	2.0 Ref.
2512	2.5±0.3	2.0±0.3	1.20 Max	1.00 Ref.	2.0 Ref.	0.8 Ref.	0.85 Ref.	2.0 Ref.
3012	3.0±0.2	3.0±0.2	1.20 Max	0.90 Ref.	2.5 Ref.	1.5 Ref.	0.80 Ref.	2.7 Ref.
3015	3.0±0.2	3.0±0.2	1.50 Max	0.90 Ref.	2.5 Ref.	1.5 Ref.	0.80 Ref.	2.7 Ref.
4012	4.0±0.2	4.0±0.2	1.20 Max	1.10 Ref.	3.2 Ref.	1.4 Ref.	1.40 Ref.	3.7 Ref.
4018	4.0±0.2	4.0±0.2	1.85 Max	1.10 Ref.	3.2 Ref.	1.4 Ref.	1.40 Ref.	3.7 Ref.
4020	4.0±0.2	4.0±0.2	2.00 Max	1.10 Ref.	3.2 Ref.	1.6 Ref.	1.30 Ref.	3.7 Ref.
4030	4.0±0.2	4.0±0.2	3.00 Max	1.10 Ref.	3.2 Ref.	1.6 Ref.	1.30 Ref.	3.7 Ref.
5020	5.0±0.2	5.0±0.2	2.10 Max	1.40 Ref.	4.0 Ref.	2.3 Ref.	1.50 Ref.	4.7 Ref.
5030	5.0±0.2	5.0±0.2	3.00 Max	1.40 Ref.	4.0 Ref.	2.0 Ref.	1.60 Ref.	4.7 Ref.
5040	5.0±0.2	5.0±0.2	4.00 Max	1.40 Ref.	4.0 Ref.	2.0 Ref.	1.60 Ref.	4.7 Ref.
6020	6.0±0.3	6.0±0.3	2.00 Max	1.80 Ref.	4.9 Ref.	2.4 Ref.	2.00 Ref.	5.7 Ref.
6028	6.0±0.3	6.0±0.3	2.80 Max	1.80 Ref.	4.9 Ref.	2.4 Ref.	2.00 Ref.	5.7 Ref.
6045	6.0±0.3	6.0±0.3	4.50 Max	1.80 Ref.	5.7 Ref.	2.8 Ref.	1.70 Ref.	5.7 Ref.
8040	8.0±0.3	8.0±0.3	4.20 Max	2.30 Ref.	6.3 Ref.	3.4 Ref.	2.50 Ref.	7.5 Ref.

●ELECTRICAL CHARACTERISTICS

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA2016-R22N	0.22	N	-	40	3700	2800
PIA2016-R24N	0.24	N	-	40	3700	2800
PIA2016-R33N	0.33	N	-	48	3000	2400
PIA2016-R47N	0.47	N	-	60	2300	2300
PIA2016-R68N	0.68	N	-	76	1950	2000
PIA2016-1R0N	1.00	N	-	114	1650	1450
PIA2016-1R5N	1.50	N	-	174	1350	1100
PIA2016-2R2M	2.20	M	-	262	1200	1050
PIA2016-3R3M	3.30	M	-	345	1000	850
PIA2016-4R7M	4.70	M	-	480	750	700
PIA2016-6R8M	6.80	M	-	800	700	550
PIA2016-8R2M	8.20	M	-	940	680	530
PIA2016-100M	10.00	M	-	1000	650	500

* Inductance test Freq.: 100KHz/1.0V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA2510-R24N	0.24	N	-	34	3600	2750
PIA2510-R33N	0.33	N	-	40	3600	2450
PIA2510-R47N	0.47	N	-	44	2800	2400
PIA2510-R68N	0.68	N	-	62	2750	2100
PIA2510-1R0N	1.0	N	-	80	2050	1850
PIA2510-1R5N	1.5	N	-	108	1700	1550
PIA2510-2R2M	2.2	M	-	150	1500	1350
PIA2510-3R3M	3.3	M	-	228	1100	1050
PIA2510-4R7M	4.7	M	-	330	1000	900
PIA2510-5R6M	5.6	M	-	480	900	800
PIA2510-6R8M	6.8	M	-	480	800	720
PIA2510-8R2M	8.2	M	-	572	730	690
PIA2510-100M	10	M	-	600	650	650
PIA2510-150M	15	M	-	1050	500	450

* Inductance test Freq.: 100KHz/1.0V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA2512-R24N	0.24	N	-	23	4100	4100
PIA2512-R33N	0.33	N	-	31	4000	3350
PIA2512-R47N	0.47	N	-	36	3800	3000
PIA2512-R68N	0.68	N	-	47	3000	2300
PIA2512-1R0N	1.0	N	-	60	2250	2300
PIA2512-1R2N	1.2	N	-	78	2200	2000
PIA2512-1R5N	1.5	N	-	90	2000	1800
PIA2512-1R8N	1.8	N	-	108	1950	1750
PIA2512-2R2M	2.2	M	-	108	1750	1750
PIA2512-2R7M	2.7	M	-	156	1300	1400
PIA2512-3R3M	3.3	M	-	156	1200	1400
PIA2512-4R7M	4.7	M	-	228	1100	1100
PIA2512-5R6M	5.6	M	-	330	1000	1000
PIA2512-6R8M	6.8	M	-	360	900	950
PIA2512-100M	10	M	-	522	700	780
PIA2512-150M	15	M	-	1000	600	500
PIA2512-220M	22	M	-	1290	450	480

* Inductance test Freq.: 100KHz/1.0V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA3012-R47N	0.47	N	-	27	2200	2200
PIA3012-R68N	0.68	N	-	29	2100	2100
PIA3012-R82N	0.82	N	-	30	2050	2100
PIA3012-1R0N	1.00	N	-	40	1900	2000
PIA3012-1R5N	1.5	N	-	45	1650	1850
PIA3012-2R2M	2.2	M	-	75	1200	1550
PIA3012-3R3M	3.3	M	-	100	1050	1360
PIA3012-3R9M	3.9	M	-	112	1000	1240
PIA3012-4R7M	4.7	M	-	120	900	1240
PIA3012-6R8M	6.8	M	-	190	750	980
PIA3012-100M	10	M	-	265	600	830

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA3015-R47N	0.47	N	-	27	2500	2350
PIA3015-1R0N	1.0	N	-	30	2320	2100
PIA3015-1R5N	1.5	N	-	50	2000	1700
PIA3015-2R2M	2.2	M	-	60	1600	1600
PIA3015-2R7M	2.7	M	-	75	1450	1430
PIA3015-3R3M	3.3	M	-	80	1320	1360
PIA3015-3R9M	3.9	M	-	105	1200	1100
PIA3015-4R7M	4.7	M	-	125	1100	1090
PIA3015-5R6M	5.6	M	-	140	1000	1000
PIA3015-6R8M	6.8	M	-	200	850	850
PIA3015-8R2M	8.2	M	-	228	800	750
PIA3015-100M	10	M	-	250	720	770
PIA3015-150M	15	M	-	350	660	650
PIA3015-180M	18	M	-	430	560	590
PIA3015-220M	22	M	-	460	520	570
PIA3015-330M	33	M	-	820	400	360
PIA3015-470M	47	M	-	1250	350	280
PIA3015-680M	68	M	-	1880	270	250
PIA3015-820M	82	M	-	2460	200	180
PIA3015-101M	100	M	-	3110	150	150

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4012-R24N	0.24	N	-	25	4800	2900
PIA4012-R47N	0.47	N	-	40	3900	2400
PIA4012-1R0N	1.0	N	-	55	2800	2000
PIA4012-1R5N	1.5	N	-	65	2200	1800
PIA4012-2R2M	2.2	M	-	100	1760	1320
PIA4012-3R3M	3.3	M	-	100	1350	1320
PIA4012-4R7M	4.7	M	-	163	1150	1000
PIA4012-5R6M	5.6	M	-	185	1000	1000
PIA4012-6R8M	6.8	M	-	228	1150	850
PIA4012-100M	10	M	-	234	850	800
PIA4012-150M	15	M	-	400	680	650
PIA4012-180M	18	M	-	550	600	550
PIA4012-220M	22	M	-	690	500	490
PIA4012-330M	33	M	-	1000	500	420
PIA4012-470M	47	M	-	1430	350	370

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4018-R24N	0.24	N	-	17	7000	4300
PIA4018-R47N	0.47	N	-	32	4800	3300
PIA4018-1R0N	1.0	N	-	37	4000	2000
PIA4018-1R5N	1.5	N	-	50	3350	1800
PIA4018-2R2M	2.2	M	-	65	2700	1650
PIA4018-3R3M	3.3	M	-	91	2450	1230
PIA4018-4R7M	4.7	M	-	125	1700	1200
PIA4018-6R8M	6.8	M	-	165	1450	1060
PIA4018-8R2M	8.2	M		197	1400	930
PIA4018-100M	10	M		268	1300	840
PIA4018-150M	15	M	-	452	940	650
PIA4018-220M	22	M	-	585	800	590
PIA4018-330M	33	M	-	865	560	490
PIA4018-470M	47	M	-	986	570	420
PIA4018-680M	68	M	-	1300	470	500
PIA4018-101M	100	M	-	2851	400	280
PIA4018-150M	150	M	-	3890	310	-
PIA4018-221M	220	M	-	6000	200	100

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4020-1R0N	1.0	N	-	38	4780	2150
PIA4020-1R5N	1.5	N	-	46	4450	1980
PIA4020-2R2N	2.2	N	-	65	3400	1850
PIA4020-3R3M	3.3	M	-	91	3200	1400
PIA4020-4R7M	4.7	M		117	1700	1340
PIA4020-5R6M	5.6	M		123	2200	1220
PIA4020-6R8M	6.8	M	-	163	2000	1040
PIA4020-100M	10	M	-	215	1600	900
PIA4020-150M	15	M	-	299	1350	700
PIA4020-220M	22	M	-	455	1050	620
PIA4020-330M	33	M	-	715	850	490
PIA4020-470M	47	M	-	923	740	440
PIA4020-680M	68	M	-	1380	570	360
PIA4020-101M	100	M	-	2020	480	310

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4030-R24N	0.24	N	-	12	8000	5100
PIA4030-R47N	0.47	N	-	20	5500	4820
PIA4030-R68N	0.68	N	-	13	6800	4560
PIA4030-1R0N	1.0	N	-	22	5260	4150
PIA4030-1R5N	1.5	N	-	33	4710	3340
PIA4030-2R2N	2.2	N	-	39	4200	2950
PIA4030-3R3M	3.3	M	-	60	3300	2400
PIA4030-4R7M	4.7	M	-	82	2900	2000
PIA4030-5R6M	5.6	M	-	90	2600	1950
PIA4030-6R8M	6.8	M	-	117	2500	1600
PIA4030-8R2M	8.2	M	-	117	2100	1600
PIA4030-100M	10	M	-	130	1950	1500
PIA4030-120M	12	M	-	175	1700	1300
PIA4030-150M	15	M	-	247	1650	1110
PIA4030-220M	22	M	-	325	1300	1000
PIA4030-330M	33	M	-	530	1100	840
PIA4030-470M	47	M	-	745	950	720
PIA4030-560M	56	M	-	722	850	650
PIA4030-680M	68	M	-	1128	720	520
PIA4030-820M	82	M	-	1378	660	470
PIA4030-101M	100	M	-	1495	600	450
PIA4030-151M	150	M	-	2340	500	300
PIA4030-181M	180	M	-	3400	450	260
PIA4030-221M	220	M	-	3250	400	350
PIA4030-331M	330	M	-	5260	450	250
PIA4030-471M	470	M	-	9360	300	200
PIA4030-561M	560	M	-	9027	280	150
PIA4030-102M	1000	M	-	11500	180	100
PIA4030-222M	2200	M	-	27000	130	50

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA5020-R22N	0.22	N	-	15	9000	5300
PIA5020-R47N	0.47	N	-	24	6150	4600
PIA5020-R68N	0.68	N	-	28	5500	4300
PIA5020-1R0N	1.0	N	-	30	4100	3800
PIA5020-1R5N	1.5	N	-	38	4100	3200
PIA5020-2R2N	2.2	N	-	49	3200	2900
PIA5020-2R7N	2.7	M	-	62	2900	2900
PIA5020-3R3M	3.3	M	-	70	2550	2400
PIA5020-4R7M	4.7	M	-	86	2500	2100
PIA5020-5R6M	5.6	M	-	98	2300	2000
PIA5020-6R8M	6.8	M	-	125	2050	1700
PIA5020-8R2M	8.2	M	-	155	1850	1600
PIA5020-100M	10	M	-	165	1750	1500
PIA5020-150M	15	M	-	235	1350	1250
PIA5020-220M	22	M	-	294	1150	1000
PIA5020-330M	33	M	-	507	920	830
PIA5020-470M	47	M	-	680	770	700
PIA5020-560M	56	M	-	664	700	650
PIA5020-680M	68	M	-	962	650	600
PIA5020-101M	100	M	-	1430	530	480
PIA5020-151M	150	M	-	2715	480	460
PIA5020-221M	220	M	-	3200	350	260
PIA5020-331M	330	N	-	4100	350	350

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA5030-R47N	0.47	N	-	10	9000	5000
PIA5030-1R0N	1.0	N	-	15	6650	4000
PIA5030-1R5N	1.5	N	-	16	4800	3900
PIA5030-2R2N	2.2	N	-	23	4200	3500
PIA5030-3R3M	3.3	M		30	3600	3000
PIA5030-4R7M	4.7	M		35	3100	2600
PIA5030-6R8M	6.8	M	-	52	2500	2300
PIA5030-100M	10	M	-	70	1900	1700
PIA5030-150M	15	M	-	125	1600	1400
PIA5030-220M	22	M	-	180	1400	1050
PIA5030-270M	27	M	-	190	1300	900
PIA5030-330M	33	M	-	225	1150	800
PIA5030-470M	47	M	-	325	950	700
PIA5030-560M	56	M	-	420	890	650
PIA5030-680M	68	M	-	475	850	600
PIA5030-101M	100	M	-	720	580	590
PIA5030-151M	150	M	-	1050	560	550
PIA5030-221M	220	M	-	1300	500	450

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA5040-R68N	0.68	N	-	16	7600	5200
PIA5040-1R0N	1.0	N	-	20	7350	4900
PIA5040-1R5N	1.5	N	-	28	6300	4300
PIA5040-2R2N	2.2	N	-	30	4900	3800
PIA5040-2R7N	2.7	N	-	35	4300	4300
PIA5040-3R3M	3.3	M	-	37	3950	3400
PIA5040-3R9M	3.9	M	-	39	3550	3200
PIA5040-4R7M	4.7	M	-	42	3500	3000
PIA5040-5R6M	5.6	M	-	55	3000	2800
PIA5040-6R8M	6.8	M	-	61	2900	2500
PIA5040-8R2M	8.2	M	-	78	2700	2300
PIA5040-100M	10	M	-	86	2350	2100
PIA5040-150M	15	M	-	116	2000	2000
PIA5040-220M	22	M	-	174	1600	1500
PIA5040-330M	33	M	-	253	1300	1200
PIA5040-470M	47	M	-	364	1100	1000
PIA5040-560M	56	M	-	500	900	800
PIA5040-680M	68	M	-	540	900	800
PIA5040-820M	82	M	-	652	820	740
PIA5040-101M	100	M	-	756	750	700
PIA5040-121M	120	M	-	862	700	650
PIA5040-151M	150	M	-	1052	650	600
PIA5040-102M	1000	M	-	8200	400	300
PIA5040-222M	2200	M	-	2400	150	150

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA6020-R68N	0.68	N	15	20	7500	3800
PIA6020-1R0N	1.0	N	20	26	4800	3500
PIA6020-1R2N	1.2	N	20	26	4300	3500
PIA6020-1R5N	1.5	N	25	32.5	4300	3200
PIA6020-2R2N	2.2	N	35	45.5	3750	2750
PIA6020-3R3N	3.3	N	45	58.5	3150	2600
PIA6020-4R7N	4.7	N	58	75.4	3000	2000
PIA6020-5R6M	5.6	M	70	91	2400	1900
PIA6020-6R8M	6.8	M	85	110.5	2200	1800
PIA6020-100M	10	M	120	156	1750	1400
PIA6020-150M	15	M	160	208	1500	1200
PIA6020-220M	22	M	240	312	1250	1000
PIA6020-270M	27	M	350	455	1150	950
PIA6020-330M	33	M	400	520	1110	900
PIA6020-470M	47	M	500	650	1000	800
PIA6020-680M	68	M	815	1059.5	800	680

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA6028-R68N	0.68	N	-	13	6900	5700
PIA6028-1R0N	1.0	N	-	24	5750	5100
PIA6028-1R5N	1.5	N	-	41	6000	4750
PIA6028-2R2N	2.2	N	-	50	5100	4100
PIA6028-3R3M	3.3	M	-	65	4150	3200
PIA6028-4R7M	4.7	M	-	70	3000	3000
PIA6028-5R6M	5.6	M	-	72	2800	2750
PIA6028-6R8M	6.8	M	-	74	2600	2700
PIA6028-8R2M	8.2	M	-	95	2300	2600
PIA6028-100M	10	M	-	106	2040	2500
PIA6028-150M	15	M	-	183	1750	1900
PIA6028-220M	22	M	-	242	1450	1500
PIA6028-330M	33	M	-	296	1350	1400
PIA6028-470M	47	M	-	410	1150	1200
PIA6028-680M	68	M	-	680	1000	850
PIA6028-101M	100	M	-	820	690	570

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA6045-R68N	0.68	N	18	21	11000	9000
PIA6045-1R0N	1.0	N	20	24	9850	7800
PIA6045-1R5N	1.5	N	22	25	8800	6800
PIA6045-2R2N	2.2	N	28	32	6750	5000
PIA6045-3R0M	3.0	M	30	34	6100	4700
PIA6045-3R3M	3.3	M	31	35	5900	4500
PIA6045-4R7M	4.7	M	40	45	4970	4000
PIA6045-5R6M	5.6	M	45	50	4150	3800
PIA6045-6R8M	6.8	M	50	61	3900	3500
PIA6045-8R2M	8.2	M	80	95	3900	3500
PIA6045-100M	10	M	90	103	3200	4800
PIA6045-150M	15	M	100	135	2500	2000
PIA6045-220M	22	M	120	151	2050	1800
PIA6045-270M	27	M	150	205	1800	1600
PIA6045-330M	33	M	160	200	1650	1400
PIA6045-470M	47	M	180	310	1400	1200
PIA6045-560M	56	M	200	367	1300	1200
PIA6045-680M	68	M	250	376	1200	1100
PIA6045-820M	82	M	300	538	1100	900
PIA6045-101M	100	M	350	563	950	800
PIA6045-151M	150	M	1000	1254	800	700
PIA6045-221M	220	M	1100	1384	700	600
PIA6045-271M	270	M	1200	1517	600	500
PIA6045-331M	330	M	1800	2160	570	400
PIA6045-471M	470	M	1900	2905	500	300
PIA6045-681M	680	M	3200	4800	400	300
PIA6045-102M	1000	M	5400	6896	320	200
PIA6045-122M	1200	M	6900	9018	220	150
PIA6045-132M	1300	M	8000	9018	250	100
PIA6045-152M	1500	M	8500	9620	250	100

* Inductance test Freq.: 100KHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having an inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA8040-R47N	0.47	N	-	11	11500	7600
PIA8040-1R0N	1.0	N	-	11	9850	6300
PIA8040-1R5N	1.5	N	-	14	8150	5650
PIA8040-2R2N	2.2	N	-	16	7100	5150
PIA8040-3R3M	3.3	M	-	24	6500	4400
PIA8040-4R7M	4.7	M	-	28	5900	4000
PIA8040-5R6M	5.6	M	-	30	5300	3800
PIA8040-6R8M	6.8	M	-	32	4500	3600
PIA8040-8R2M	8.2	M	-	34	4200	3400
PIA8040-100M	10	M	-	48	3600	3100
PIA8040-120M	12	M	-	65	3400	2700
PIA8040-150M	15	M	-	79	2950	2500
PIA8040-180M	18	M	-	92	2700	2200
PIA8040-220M	22	M	-	90	2400	2000
PIA8040-270M	27	M	-	101	2150	1900
PIA8040-330M	33	M	-	126	2050	1700
PIA8040-470M	47	M	-	177	1750	1500
PIA8040-680M	68	M	-	255	1450	1200
PIA8040-820M	82	M		293	1300	1100
PIA8040-101M	100	M	-	390	1150	1000
PIA8040-121M	120	M	-	434	1050	900
PIA8040-151M	150	M	-	533	1100	800
PIA8040-181M	180	M	-	676	950	750
PIA8040-221M	220	M	-	862	850	700
PIA8040-331M	330	M	-	1176	680	600
PIA8040-471M	470	M	-	1625	600	500
PIA8040-561M	560	M	-	2520	550	450
PIA8040-681M	680	M	-	2670	500	400
PIA8040-102M	1000	M	-	3800	400	300

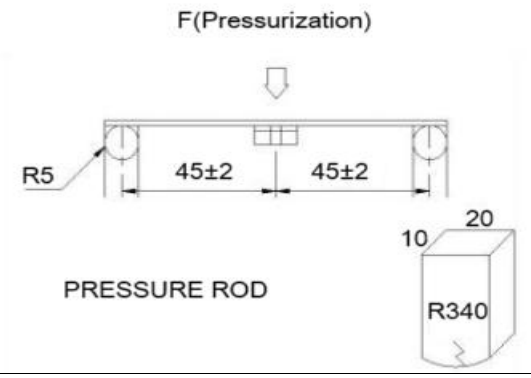
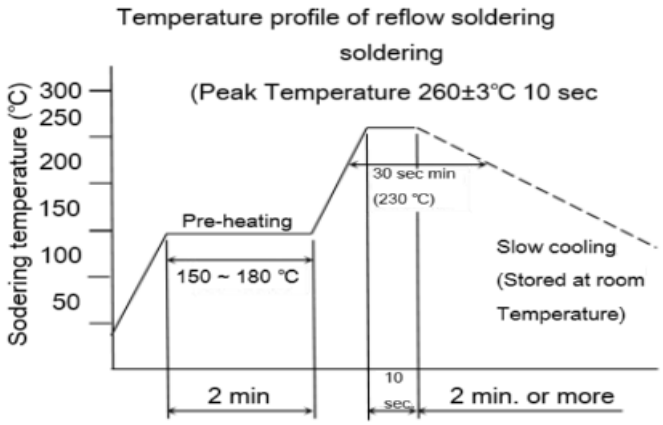
* Inductance test Freq.: 2MHz / 0.25V

* Tolerance : N:±30%、M:±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 25℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃

• RELIABILITY

Test Item	Test Condition	Specification
Dimension	Actual Size ...	Meet Spec
Substrate bending	The sample shall be soldered onto the printed circuit board in figure 1 and a load applied until the figure in the arrow direction is made approximately 3mm. (keep time 30 seconds. 	ΔL/Lo ≤ ±5% There shall be no mechanical damage or electrical damage.
Vibration	The sample shall be soldered onto the printed circuit board and when a vibration having an amplitude of 1.52mm and a frequency of from 10 to 55Hz/1 minute repeated should be applied to the 3 directions (X, Y, Z) for 2 Hours each. (A total of 6 hours)	ΔL/Lo ≤ ±5% There shall be no mechanical damage.
Solderability	Flux (rosin, isopropyl alcohol {JIS-K-1522}) shall be coated over the whole of the sample before hard, the sample shall then be preheated for about 2 minutes in a temperature of 130℃ ~ 150℃ and after it has been immersed to a depth 0.5mm below for 3±0.2 seconds fully in molten solder M705 with a temperature of 245±2℃ More than 90% of the electrode sections shall be covered with new solder when the sample is taken out of the solder bath.	New solder More than 90%
Resistance to Soldering heat (reflow soldering)	 The specimen shall be passed through the reflow oven with the condition shown in the above profile for 1 time. The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made,	There shall be no damage or problems
Insulation resistance	DC 100V voltage shall be applied across this sample of top surface and the terminal. The insulation resistance shall be more the 1 x $10^8\Omega$	There shall be no other damage or problems

<table>
<tr><td>Dielectric withstand voltage</td><td>AC 200V voltage shall be applied for 1 minute across the top surface and the terminal of the sample</td><td>There shall be no other damage or problems.</td></tr>
<tr><td>Temperature characteristics</td><td>The teat shall be performed after the sample has stabilized in an ambient temperature of -40℃ ~ +125℃, and the value calculated based on the value applicable in a normal temperature and normal humidity shall be ΔL/L 20℃ ≤ ±10%.</td><td>ΔL/L 20℃ ≤ ±10%
0~2000 ppm/℃.</td></tr>
<tr><td>High Temperature storage</td><td>The sample shall be left for 500 hours in an atmosphere with a temperature of 125 ± 2℃ and a normal humidity.
Upon completion of the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.</td><td>ΔL/Lo ≤ ±5%

There shall be no mechanical damage.</td></tr>
<tr><td>Low Temperature storage</td><td>The sample shall be left for 500 hours in an atmosphere with a temperature of -40 ± 3℃.
Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.</td><td>ΔL/Lo ≤ ±5%

There shall be no mechanical damage.</td></tr>
<tr><td>Change of temperature</td><td>The sample shall be subject of 5 continuous cycles, such as shown in the table2 below and then it shall be subjected to standard atmospheric conditions for 1 hour, after which measurement shall be made.

Table2
<table>
<tr><th></th><th>Temperature</th><th>Duration</th></tr>
<tr><td>1</td><td>-40 ± 3℃
(Thermostat N0.1)</td><td>10 min</td></tr>
<tr><td>2</td><td>Standard atmospheric</td><td>5 sec. or less
No.1 → No2.</td></tr>
<tr><td>3</td><td>125 ± 2℃
(Thermostat No2.</td><td>30 min</td></tr>
<tr><td>4</td><td>Standard atmospheric</td><td>5 sec. or less
No.2 → No1.</td></tr>
</table></td><td>ΔL/Lo ≤ ±5%

There shall be no other damage of problems.</td></tr>
<tr><td>Moistures storage</td><td>The sample shall be left for 500 hours in a temperature of 40 ± 2℃ and humidity (RH) of 90~95%.
Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity more than 1 hour.</td><td>ΔL/Lo ≤ ±5%

There shall be no mechanical damage.</td></tr>
<tr><td colspan="3">Test conditions:
The sample shall be reflow soldered onto the printed circuit board in every test.</td></tr>
</table>

•TEST EQUIPMENT

HP4287A、TH2817C、TH2817B/1773、HK502BC、CH1062

•OPERATING & STORAGE CONDITION

1. Operating Temp: -40 ~ +125℃ (Including self - temperature rise)
2. Storage Temp: a. Product with Taping: -10 ~ 45℃, 50 ~ 60% RH
   b. On Board: -40 ~ +125℃
3. Storage Life Time: 6 Month (Less than 40℃ and 60% RH)

Standard Atmosphere Conditions:

Ambient Temperature 20 ± 15℃; Humidity RH 65 ± 20%

If there may be any doubt on the test result, Measurement shall be made within the following limits:

Ambient Temperature 25 ± 5℃; Humidity RH 75 ± 10%

•ATTENTION & CAUTION

* Keep out of Splashing water or salt water
* Avoid Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
* Vibrations or shocks which exceed the specified condition
* Dew condenses
* Layout near the edge of PCB
* Over flexure after SMT mounting & PCBA
* Pin foot or SMD pad solder ability: Pb free type is best within 6 months after delivery
* Humidity sensitive, IPC/JEDEC J-STD-020 MSL if over Level 1, recommend bake 30mins@150℃ before PCBA
* Caution for human life relative applications: PLS contact & consult with AiT team in design stage.

Care Note for Use:

(1) Storage Condition:
Temperature 25 to 35℃, Humidity 45 to 60% RH

(2) Use Temperature:
a. Minimum Temperature: -40℃ Ambient temperature of this product.
b. Maximum Temperature: +125℃ The value of temperature including ambient and temperature rise of this product.
c. Reliability test temperature range from -40 ~ +125℃
d. However, this is not meant as temperature grade guarantee for UL.

(3) Model:
When this product was used in a similar or as new product to the original one, sometimes it might be unable to satisfy the specifications due to difference in condition of usage.

(4) Drop:
If this product suffered mechanical stress such as drop, characteristics may become poor (due to damage on coil / bobbin / ferrite … etc.)
Never use such stressed product.

Care Note for Safety:

(1) Provision to Abnormal Condition:
This product itself does not have any protective function in abnormal condition such as overload, short-circuit and open-circuit conditions, etc.
Therefore, it shall be confirmed from the end product that there is no risk of smoking, fire, dielectric withstand voltage insulation resistance, etc. in abnormal conditions to provide protective devices and /or protection circuit in the end product.

(2) Temperature Rise:
Temperature rise on this product depends on the installation condition on end products.

It shall be confirmed on the actual end product that temperature rise of this product is within the specified temperature class limit.

(3) Dielectric Strength:

Dielectric withstanding test with higher voltage than specific value will damage insulating material and shorten its life.

(4) Water:

This product must not be used in wet condition resulted from water, coffee or any liquid contact because insulation strength becomes very low under such condition.

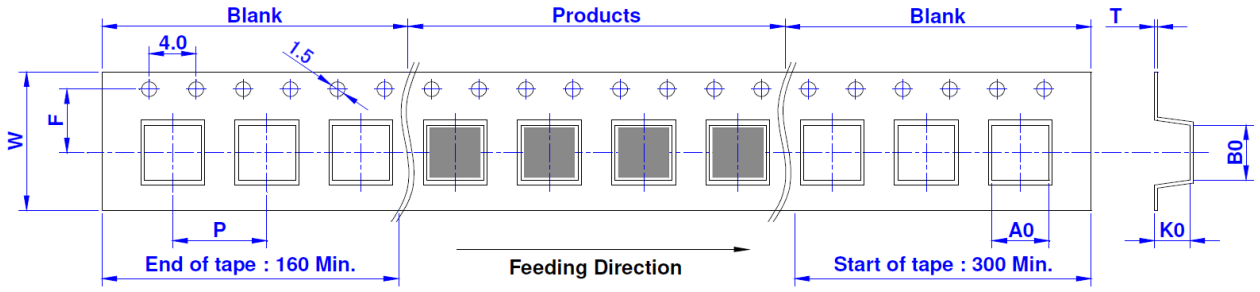
(5) Potting:

If this product is potted in some compound, coating material of magnet wire might be occasionally damaged. Please ask us if you intend to pot this product.

(6) Detergent:

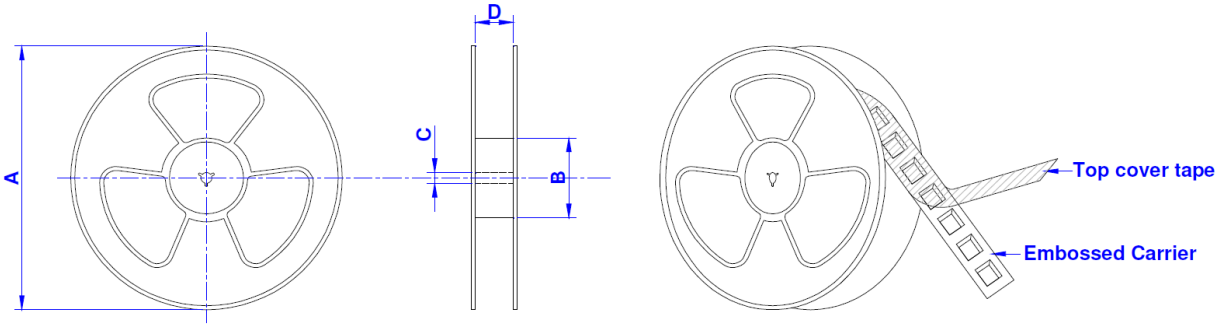
Please consult AiT Semi immediately once under such circumstances because product reliability confirmation etc. is needed when this product come in contact with these chemicals.

•TAPE DIMENSION: mm



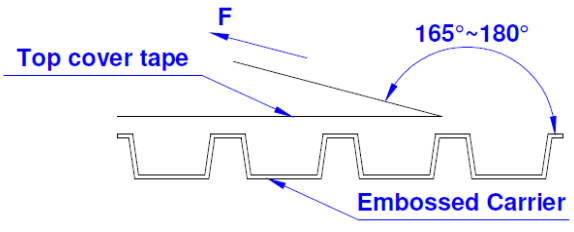
SIZE/mm	W	P	A0	B0	K0	T	F
2016	8.0±0.3	4.0±0.1	1.9±0.1	2.2	1.20±0.1	0.30±0.05	3.5±0.1
2510	8.0±0.3	4.0±0.1	3.2±0.1	2.6	1.32±0.1	0.30±0.05	3.5±0.1
2512	8.0±0.3	4.0±0.1	3.2±0.1	3.2	1.32±0.1	0.30±0.05	3.5±0.1
3012	8.0±0.3	4.0±0.1	3.2±0.1	3.2	1.32±0.1	0.30±0.05	3.5±0.1
3015	8.0±0.3	4.0±0.1	3.2±0.1	3.2	1.7±0.1	0.30±0.05	3.5±0.1
4012	12.0±0.3	8.0±0.1	4.3±0.1	4.3	2.0±0.1	0.30±0.05	5.5±0.1
4018	12.0±0.3	8.0±0.1	4.3±0.1	4.3	2.0±0.1	0.30±0.05	5.5±0.1
4020	12.0±0.3	8.0±0.1	4.3±0.1	4.3	2.2±0.1	0.30±0.05	5.5±0.1
4030	12.0±0.3	8.0±0.1	4.3±0.1	4.5	3.2±0.1	0.30±0.05	5.5±0.1
5020	12.0±0.3	8.0±0.1	5.3±0.1	5.4	2.2±0.1	0.30±0.05	5.5±0.1
5030	12.0±0.3	8.0±0.1	5.3±0.1	5.4	4.2±0.1	0.30±0.05	5.5±0.1
5040	12.0±0.3	8.0±0.1	5.3±0.1	5.4	4.2±0.1	0.30±0.05	5.5±0.1
6020	12.0±0.3	8.0±0.1	6.3±0.1	6.3	3.0±0.1	0.35±0.05	7.5±0.1
6028	12.0±0.3	8.0±0.1	6.3±0.1	6.3	3.0±0.1	0.35±0.05	7.5±0.1
6045	12.0±0.3	8.0±0.1	6.3±0.1	6.3	4.7±0.1	0.35±0.05	4.5±0.1
8040	16.0±0.3	8.0±0.1	8.4±0.1	8.3	4.5±0.1	0.40±0.05	7.5±0.1

•REEL DIMENSION: mm



Size / mm	Reel Size	A	B	C	D	QTY / Reel
2016	7" x 8 mm	178±0.5	58±0.5	13.0±0.5	8.5±0.5	2000 PCS
2510	7" x 8 mm	180±0.5	100±0.5	13.5±0.5	8.5±0.5	2000 PCS
2512	7" x 8 mm	180±0.5	100±0.5	13.5±0.5	8.5±0.5	2000 PCS
3012	7" x 8 mm	180±0.5	100±0.5	13.5±0.5	8.5±0.5	2000 PCS
3015	7" x 8 mm	180±0.5	100±0.5	13.5±0.5	8.5±0.5	2000 PCS
4012	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	4500 PCS
4018	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	3000 PCS
4020	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	3000 PCS
4030	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	2000 PCS
5020	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	3000 PCS
5030	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	2000 PCS
5040	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	1500 PCS
6020	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	3000 PCS
6028	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	2000 PCS
6045	13" x 12 mm	330±0.5	100±0.5	13.5±0.5	12.5±0.5	1500 PCS
8040	13" x 12 mm	330±0.5	100±0.5	13.2±0.5	12.5±0.5	1000 PCS

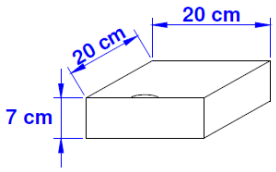
•TEARING OFF FORCE :



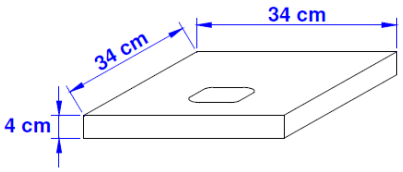
The force for tearing off cover tape is 20 to 100 grams in the arrow direction under the following conditions (referenced ANSI/EIA - 481 - D - 2008 of 4.11stadnard).

Room Temp. (℃)	Room Humidity (%)	Room Atm. (hPa)	Tearing Speed (mm/min)
5 ~ 35	45 ~ 85	860~1060	300

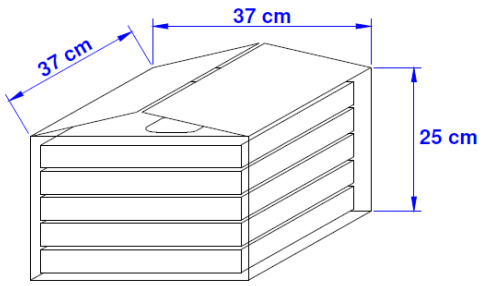
•BOX PACKAGE: cm



7" Small Box



13" Small Box



Large Box

SIZE/mm	Reels in Small Box	Small Box in Large Box
2016	5	8
2510	5	8
2512	5	8
3012	5	8
3015	4	8
4012	2	5
4018	2	5
4020	2	5
4030	2	5
5020	2	5
5030	1	5
5040	1	5
6020	1	5
6028	1	5
6045	1	5
8040	1	5

IMPORTANT NOTICE

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