•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

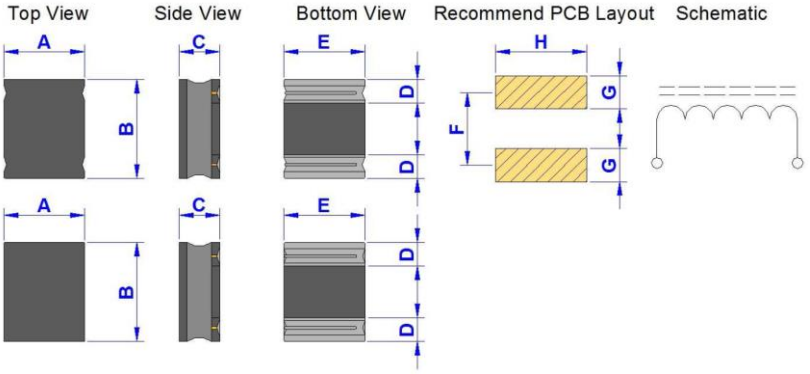
•APPLICATION

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

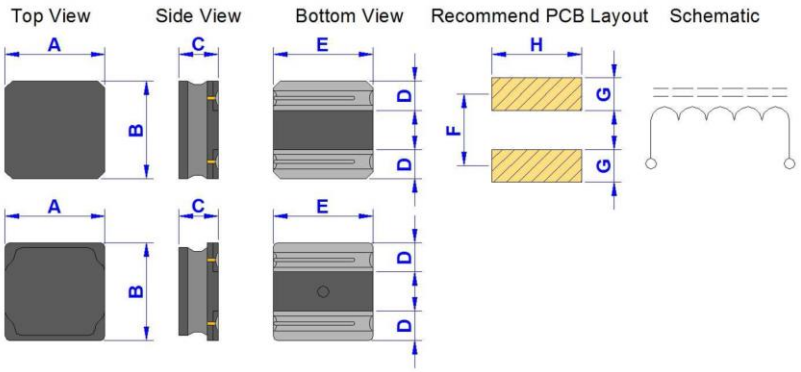
•ORDERING INFORMATION

PIA	4010	U	-1R0	Y	Q
Series	Dimension	Material code	Inductance(L)	Tolerance(T)	AEC-Q
	L*W*H = 4.2*4.2*1.0	(A, C, L)	(uH)	M=±20%,Y=±30%	

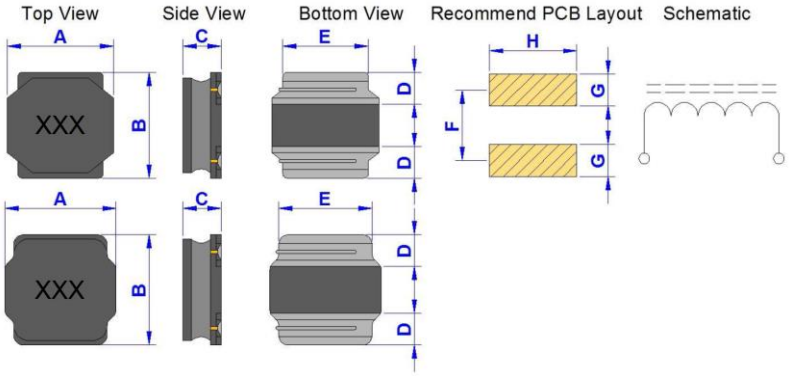
•SHAPE AND DIMENSION



PIA2510
PIA2512



PIA3010
PIA3012
PIA3015



PIA4010
PIA4018
PIA4020
PIA4030
PIA5014
PIA5020
PIA5040
PIA6020
PIA6028
PIA6040
PIA6045
PIA6012

•SPECIFICATION

Unit: mm

TYPE	A	B	C	D	E	F	G	H
2510	2.20 Max.	2.70 Max.	1.00 Max.	0.85 Ref.	2.00 Ref.	1.65 Ref.	0.85 Ref.	2.00 Ref.
2512	2.20 Max.	2.70 Max.	1.20 Max.	0.85 Ref.	2.10 Ref.	1.70 Ref.	0.90 Ref.	2.10 Ref.
3010	3.10 Max.	3.10 Max.	1.00 Max.	0.90 Ref.	2.70 Ref.	2.20 Ref.	1.00 Ref.	2.70 Ref.
3012	3.10 Max.	3.10 Max.	1.20 Max.	0.90 Ref.	2.70 Ref.	2.20 Ref.	1.00 Ref.	2.70 Ref.
3015	3.10 Max.	3.10 Max.	1.50 Max.	0.90 Ref.	2.70 Ref.	2.20 Ref.	1.00 Ref.	2.70 Ref.
4010	4.20 Max.	4.20 Max.	1.00 Max.	1.10 Ref.	3.50 Ref.	2.80 Ref.	1.20 Ref.	3.70 Ref.
4018	4.20 Max.	4.20 Max.	1.80 Max.	1.10 Ref.	3.50 Ref.	2.80 Ref.	1.20 Ref.	3.70 Ref.
4020	4.20 Max.	4.20 Max.	2.00 Max.	1.10 Ref.	3.50 Ref.	2.80 Ref.	1.20 Ref.	3.70 Ref.
4030	4.30 Max.	4.30 Max.	3.00 Max.	1.10 Ref.	3.30 Ref.	3.00 Ref.	1.10 Ref.	3.70 Ref.
5014	5.20 Max.	5.20 Max.	1.40 Max.	1.00 Ref.	4.80 Ref.	3.80 Ref.	1.40 Ref.	5.00 Ref.
5020	5.20 Max.	5.20 Max.	2.00 Max.	1.00 Ref.	4.80 Ref.	3.80 Ref.	1.40 Ref.	5.00 Ref.
5040	5.30 Max.	5.30 Max.	4.00 Max.	1.00 Ref.	4.80 Ref.	3.80 Ref.	1.40 Ref.	5.00 Ref.
6012	6.20 Max.	6.20 Max.	1.20 Max.	1.15 Ref.	5.10 Ref.	4.70 Ref.	1.60 Ref.	5.70 Ref.
6020	6.20 Max.	6.20 Max.	2.00 Max.	1.15 Ref.	5.10 Ref.	4.70 Ref.	1.60 Ref.	5.70 Ref.
6028	6.20 Max.	6.20 Max.	2.80 Max.	1.15 Ref.	5.10 Ref.	4.70 Ref.	1.60 Ref.	5.70 Ref.
6040	6.20 Max.	6.20 Max.	4.00 Max.	1.15 Ref.	5.10 Ref.	4.70 Ref.	1.60 Ref.	5.70 Ref.
6045	6.20 Max.	6.20 Max.	4.50 Max.	1.15 Ref.	5.10 Ref.	4.70 Ref.	1.60 Ref.	5.70 Ref.

●ELECTRICAL CHARACTERISTICS

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA2510-R47T	0.47	M,Y	40.0	48.0	2500	2650
PIA2510-R68T	0.68	M,Y	52.0	64.0	2200	2200
PIA2510-1R0T	1.00	M,Y	70.0	85.0	1800	1900
PIA2510-1R5T	1.50	M,Y	107.0	128.0	1500	1500
PIA2510-2R2T	2.20	M	150.0	185.0	1200	1200
PIA2510-3R3T	3.30	M	225.0	270.0	1000	1000
PIA2510-4R7T	4.70	M	330.0	398.0	880	820
PIA2510-6R8T	6.80	M	443.0	532.0	740	710
PIA2510-100T	10.00	M	712.0	854.0	590	550

* Inductance test Freq.: 1MHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA2512-R47T	0.47	M,Y	47.0	56.0	3700	2200
PIA2512-1R0T	1.00	M,Y	73.0	88.0	2700	1800
PIA2512-1R5T	1.50	M,Y	105.0	126.0	2200	1500
PIA2512-2R2T	2.20	M	129.0	155.0	2000	1300
PIA2512-3R3T	3.30	M	227.0	272.0	1600	1000
PIA2512-4R7T	4.70	M	338.0	406.0	1300	810
PIA2512-5R6T	5.60	M	375.0	450.0	1150	720
PIA2512-6R8T	6.80	M	510.0	612.0	1100	660
PIA2512-100T	10.00	M	630.0	756.0	900	590

* Inductance test Freq.: 1MHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA2512A-R47M	0.47	M	29.0	39.0	4500	3900
PIA2512A-R68M	0.68	M	36.0	48.0	4200	3400
PIA2512A-1R0M	1.00	M	45.0	59.0	3450	3200
PIA2512A-1R5M	1.50	M	60.0	72.0	2750	2600
PIA2512A-1R8M	1.80	M	80.0	96.0	2550	2600
PIA2512A-2R2M	2.20	M	90.0	108.0	2450	2350
PIA2512A-3R3M	3.30	M	120.0	140.0	2000	1800
PIA2512A-4R7M	4.70	M	200.0	240.0	1700	1500
PIA2512A-6R8M	6.80	M	300.0	360.0	1340	1100

* Inductance test Freq.: 1MHz / 0.1V
* M=Tolerance= ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA2512L-R24M	0.24	M	24.0	29.0	4280	3900
PIA2512L-R47M	0.47	M	34.0	41.0	3200	3700
PIA2512L-R68M	0.68	M	42.0	51.0	2750	3300
PIA2512L-1R0M	1.00	M	50.0	60.0	2550	2600
PIA2512L-1R5M	1.50	M	72.0	87.0	2100	2200
PIA2512L-2R2M	2.20	M	96.0	116.0	2000	1850
PIA2512L-3R3M	3.30	M	140.0	168.0	1450	1450
PIA2512L-4R7M	4.70	M	210.0	252.0	1280	1200
PIA2512L-6R8M	6.80	M	406.0	487.0	850	1000
PIA2512L-8R2M	8.20	M	500.0	600.0	800	820
PIA2512L-100M	10.00	M	450.0	540.0	720	750
PIA2512L-220M	22.00	M	1138.0	1366.0	480	500

* Inductance test Freq.: 1MHz / 0.1V
* M=Tolerance= ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA3010-1R0T	1.00	M,Y	65.0	78.0	1950	1700
PIA3010-1R2T	1.20	M,Y	80.0	96.0	1900	1650
PIA3010-1R5T	1.50	M,Y	80.0	96.0	1600	1650
PIA3010-1R8Y	1.80	Y	88.0	105.0	1520	1520
PIA3010-2R2M	2.20	M	95.0	114.0	1450	1450
PIA3010-3R3M	3.30	M	160.0	192.0	1050	1300
PIA3010-4R7M	4.70	M	190.0	228.0	950	1100
PIA3010-6R8M	6.80	M	300.0	360.0	760	850
PIA3010-100M	10.00	M	450.0	540.0	610	720
PIA3010-150M	15.00	M	740.0	888.0	480	560
PIA3010-220M	22.00	M	980.0	1176.0	420	500
PIA3010-330M	33.00	M	1550.0	1860.0	340	415
PIA3010-470M	47.00	M	2000.0	2400.0	270	320

* Inductance test Freq.: 1MHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA3012-R50M	0.50	M	35.0	42.0	2800	2800
PIA3012-1R0M	1.00	M	43.0	52.0	2600	2500
PIA3012-1R5M	1.50	M	65.0	78.0	2000	1900
PIA3012-2R2M	2.20	M	82.0	98.0	1900	1700
PIA3012-3R3M	3.30	M	100.0	120.0	1700	1500
PIA3012-4R7M	4.70	M	105.0	126.0	1500	1200
PIA3012-6R8M	6.80	M	170.0	204.0	1200	1000
PIA3012-100M	10.00	M	250.0	300.0	1000	800
PIA3012-150M	15.00	M	470.0	564.0	750	650
PIA3012-220M	22.00	M	630.0	756.0	670	550
PIA3012-330M	33.00	M	910.0	1092.0	550	460
PIA3012-470M	47.00	M	1250.0	1500.0	450	350

* Inductance test Freq.: 1MHz / 0.1V
* M=Tolerance= ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA3012C-1R0Y	1.00	M	42.0	50.4	2500	2200
PIA3012C-1R5Y	1.50	M	56.0	67.2	2000	2000
PIA3012C-2R2M	2.20	M	80.0	96.0	1800	1900
PIA3012C-3R3M	3.30	M	100.0	120.0	1500	1700
PIA3012C-4R7M	4.70	M	130.0	156.0	1300	1500
PIA3012C-6R8M	6.80	M	180.0	216.0	120	1200
PIA3012C-100M	10.00	M	245.0	294.0	900	1000
PIA3012C-150M	15.00	M	386.0	463.2	800	900
PIA3012C-220M	22.00	M	580.0	696.0	600	700

* Inductance test Freq.: 1MHz / 0.1V

* T=Tolerance: Y = ±30%, M = ±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA3015-1R0T	1.00	M,Y	40.0	48.0	2350	2350
PIA3015-1R5T	1.50	M,Y	55.0	66.0	2000	2100
PIA3015-1R8Y	1.80	Y	60.0	72.0	1830	1950
PIA3015-2R2M	2.20	M	60.0	72.0	1650	1800
PIA3015-3R3M	3.30	M	93.0	112.0	1400	1600
PIA3015-4R7M	4.70	M	113.0	136.0	1200	1400
PIA3015-5R6M	5.60	M	131.0	157.0	1100	1250
PIA3015-6R8M	6.80	M	176.0	211.0	1050	1100
PIA3015-100M	10.00	M	234.0	276.0	880	1000
PIA3015-150M	15.00	M	352.0	422.0	680	800
PIA3015-220M	22.00	M	510.0	622.0	580	600
PIA3015-330M	33.00	M	799.0	959.0	460	500
PIA3015-470M	47.00	M	1172.0	1406.0	380	400
PIA3015-101M	100.00	M	2433.0	2920.0	270	290

* Inductance test Freq.: 1MHz / 0.1V

* T=Tolerance: Y = ±30%, M = ±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA3015C-1R0Y	1.00	Y	30.0	36.0	2200	2200
PIA3015C-1R5Y	1.50	Y	40.0	48.0	2000	2000
PIA3015C-2R2M	2.20	M	60.0	72.0	1700	1700
PIA3015C-3R3M	3.30	M	80.0	96.0	1400	1400
PIA3015C-4R7M	4.70	M	120.0	144.0	1200	1200
PIA3015C-6R8M	6.80	M	160.0	192.0	1000	1000
PIA3015C-100M	10.00	M	220.0	264.0	750	700
PIA3015C-150M	15.00	M	320.0	360.0	650	600
PIA3015C-220M	22.00	M	460.0	552.0	550	500
PIA3015C-330M	33.00	M	800.0	960.0	400	450
PIA3015C-470M	47.00	M	1200.0	1440.0	350	300

* Inductance test Freq.: 1MHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4010-1R0Y	1.00	Y	100.0	120.0	1800	1050
PIA4010-2R2Y	2.20	Y	150.0	180.0	1150	890
PIA4010-3R3M	3.30	M	180.0	216.0	1100	820
PIA4010-4R7M	4.70	M	210.0	252.0	900	750
PIA4010-6R8M	6.80	M	300.0	360.0	740	620
PIA4010-100M	10.00	M	380.0	456.0	560	600
PIA4010-150M	15.00	M	510.0	612.0	470	510
PIA4010-220M	22.00	M	870.0	1044.0	360	400
PIA4010-330M	33.00	M	1540.0	1848.0	280	300
PIA4010-470M	47.00	M	1810.0	2172.0	240	280

* Inductance test Freq.: 100KHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4018-R56Y	0.56	Y	22.0	30.0	4500	2200
PIA4018-1R0Y	1.00	Y	31.5	42.0	3700	1850
PIA4018-1R2Y	1.20	Y	31.5	42.0	3700	1850
PIA4018-1R5Y	1.50	Y	40.0	48.0	3500	1700
PIA4018-2R2M	2.20	M	60.0	72.0	2700	1440
PIA4018-3R3M	3.30	M	72.0	86.0	2200	1230
PIA4018-4R7M	4.70	M	80.0	96.0	1700	1200
PIA4018-6R8M	6.80	M	110.0	132.0	1450	1060
PIA4018-100M	10.00	M	180.0	216.0	1200	840
PIA4018-150M	15.00	M	250.0	300.0	940	650
PIA4018-220M	22.00	M	360.0	432.0	800	590
PIA4018-330M	33.00	M	530.0	636.0	650	490
PIA4018-470M	47.00	M	650.0	780.0	570	420
PIA4018-680M	68.00	M	1000.0	1200.0	470	320
PIA4018-101M	100.00	M	1500.0	1800.0	400	270
PIA4018-151M	150.00	M	2500.0	3000.0	310	220
PIA4018-221M	220.00	M	4000.0	4800.0	270	170

* Inductance test Freq.: 100KHz / 0.1V

* T=Tolerance: Y = ±30%, M = ±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4018L-R56M	0.56	M	17.0	22.0	5500	5400
PIA4018L-1R0M	1.00	M	20.0	25.0	3800	3800
PIA4018L-1R2M	1.20	M	25.0	30.0	3600	3600
PIA4018L-1R5M	1.50	M	33.0	40.0	3500	3200
PIA4018L-1R8M	1.80	M	34.0	41.0	3100	3100
PIA4018L-2R2M	2.20	M	35.0	45.0	3000	3000
PIA4018L-3R3M	3.30	M	45.0	56.0	2400	2700
PIA4018L-4R7M	4.70	M	70.0	90.0	2000	2200
PIA4018L-6R8M	6.80	M	90.0	115.0	1700	1900
PIA4018L-8R2M	8.20	M	105.0	132.0	1600	1500
PIA4018L-100M	10.00	M	135.0	170.0	1550	1400
PIA4018L-150M	15.00	M	185.0	222.0	1000	1250
PIA4018L-220M	22.00	M	250.0	315.0	830	1200
PIA4018L-330M	33.00	M	405.0	486.0	680	900
PIA4018L-470M	47.00	M	495.0	594.0	560	800
PIA4018L-680M	68.00	M	885.0	1062.0	480	580
PIA4018L-101M	100.00	M	1545.0	1854.0	450	420
PIA4018L-221M	220.00	M	3150.0	3780.0	330	300
PIA4018L-331M	330.00	M	4200.0	5040.0	250	270

* Inductance test Freq.: 100KHz / 0.1V

* M=Tolerance= ±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4020-1R0Y	1.00	Y	32.0	38.4	4100	2800
PIA4020-1R2Y	1.20	Y	32.0	38.4	4000	2700
PIA4020-2R2Y	2.20	Y	60.0	72.0	2800	2500
PIA4020-3R3T	3.30	M,Y	70.0	84.0	2200	2100
PIA4020-4R7T	4.70	M,Y	90.0	108.0	2000	1700
PIA4020-6R8M	6.80	M	110.0	132.0	1600	1500
PIA4020-100M	10.00	M	170.0	204.0	1400	1200
PIA4020-150M	15.00	M	250.0	300.0	1000	1000
PIA4020-220M	22.00	M	350.0	420.0	900	850
PIA4020-330M	33.00	M	530.0	636.0	800	700
PIA4020-470M	47.00	M	720.0	864.0	700	560
PIA4020-680M	68.00	M	1000.0	1200.0	560	450
PIA4020-101M	100.00	M	1500.0	1800.0	460	380
PIA4020-151M	150.00	M	2500.0	3000.0	350	300
PIA4020-221M	220.00	M	4000.0	4800.0	280	230

* Inductance test Freq.: 100KHz / 0.1V

* T=Tolerance: Y = ±30%, M = ±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA4030-1R0Y	1.00	Y	15.0	19.5	5900	3400
PIA4030-1R5Y	1.50	Y	25.0	32.5	4850	3300
PIA4030-2R2M	2.20	M	35.0	45.5	4100	2950
PIA4030-3R3M	3.30	M	40.0	52.0	3300	2400
PIA4030-3R9M	3.90	M	57.0	74.1	3000	2100
PIA4030-4R7M	4.70	M	60.0	78.0	2900	2000
PIA4030-5R6M	5.60	M	70.0	91.0	2750	1950
PIA4030-6R8M	6.80	M	75.0	97.5	2600	1700
PIA4030-7R5M	7.50	M	90.0	117.0	2200	1650
PIA4030-8R2M	8.20	M	100.0	130.0	2100	1600
PIA4030-100M	10.00	M	115.0	149.5	1950	1500
PIA4030-120M	12.00	M	140.0	182.0	1700	1350
PIA4030-150M	15.00	M	190.0	247.0	1650	1150
PIA4030-180M	18.00	M	215.0	279.5	1400	1100
PIA4030-220M	22.00	M	225.0	292.5	1300	1000
PIA4030-330M	33.00	M	330.0	429.0	1100	840
PIA4030-470M	47.00	M	500.0	650.0	900	720
PIA4030-560M	56.00	M	560.0	728.0	850	650
PIA4030-680M	68.00	M	750.0	975.0	750	550
PIA4030-820M	82.00	M	950.0	1235.0	680	500
PIA4030-101M	100.00	M	1150.0	1495.0	600	450
PIA4030-151M	150.00	M	2350.0	3055.0	500	350

* Inductance test Freq.: 100KHz / 0.1V

* T=Tolerance: Y = ±30%, M = ±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA5014-1R0Y	1.00	Y	45.0	54.0	3800	2400
PIA5014-1R2Y	1.20	Y	45.0	54.0	3800	2400
PIA5014-1R5M	1.50	M	55.0	71.5	3000	2100
PIA5014-2R2Y	2.20	Y	65.0	78.0	2800	2000
PIA5014-3R3Y	3.30	Y	80.0	96.0	2350	1700
PIA5014-4R7Y	4.70	Y	100.0	120.0	2050	1400
PIA5014-6R8M	6.80	M	150.0	180.0	1600	1200
PIA5014-100M	10.00	M	200.0	240.0	1400	1050

* Inductance test Freq.: 100KHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA5020-R68Y	0.68	Y	14.2	18.2	5000	4000
PIA5020-1R0Y	1.00	Y	18.5	21.0	4400	3600
PIA5020-1R5Y	1.50	Y	22.5	26.0	3500	3200
PIA5020-2R0Y	2.00	Y	27.0	35.0	3200	2900
PIA5020-2R2Y	2.20	Y	27.0	35.0	3000	2900
PIA5020-3R3M	3.30	M	40.0	48.0	2600	2400
PIA5020-4R7M	4.70	M	55.0	60.0	2000	2000
PIA5020-6R8M	6.80	M	80.0	90.0	1600	1650
PIA5020-100M	10.00	M	105.0	120.0	1300	1450
PIA5020-150M	15.00	M	148.0	165.0	1100	1200
PIA5020-220M	22.00	M	220.0	260.0	900	1000
PIA5020-330M	33.00	M	340.0	380.0	800	760
PIA5020-470M	47.00	M	590.0	760.0	600	580

* Inductance test Freq.: 100KHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA5040-1R5Y	1.50	Y	20.0	26.0	6000	3600
PIA5040-2R2Y	2.20	Y	22.0	28.6	4600	3500
PIA5040-3R3T	3.30	M,Y	27.0	35.1	3800	3300
PIA5040-3R6Y	3.60	Y	27.0	35.1	3720	3200
PIA5040-4R7M	4.70	M	29.0	37.7	3300	3100
PIA5040-6R8M	6.80	M	49.0	63.7	2600	2300
PIA5040-100M	10.00	M	56.0	72.8	2300	2100
PIA5040-150M	15.00	M	80.0	104.0	2000	1800
PIA5040-220M	22.00	M	126.0	163.8	1600	1400
PIA5040-330M	33.00	M	180.0	234.0	1300	1200
PIA5040-470M	47.00	M	310.0	403.0	1100	900
PIA5040-102M	1000.00	M	6500.0	8450.0	210	190

* Inductance test Freq.: 100KHz / 0.1V

* T=Tolerance: Y = ±30%, M = ±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA6012-1R0Y	1.00	Y	50.0	65.0	2800	2300
PIA6012-1R5Y	1.50	Y	65.0	85.0	2400	2000
PIA6012-2R2Y	2.20	Y	75.0	100.0	2200	1800
PIA6012-2R5Y	2.50	Y	90.0	108.0	2100	1730
PIA6012-3R3M	3.30	M	100.0	120.0	2000	1640
PIA6012-4R0Y	4.00	Y	105.0	126.0	1800	1570
PIA6012-4R7Y	4.70	Y	110.0	145.0	1600	1450
PIA6012-5R3M	5.30	M	115.0	150.0	1500	1400
PIA6012-6R8M	6.80	M	165.0	198.0	1300	1180
PIA6012-100M	10.00	M	235.0	282.0	1000	1000
PIA6012-150M	15.00	M	330.0	396.0	800	790
PIA6012-220M	22.00	M	530.0	636.0	760	630
PIA6012-330M	33.00	M	700.0	840.0	590	530
PIA6012-470M	47.00	M	1050.0	1260.0	520	460
PIA6012-680M	68.00	M	1350.0	1620.0	440	410
PIA6012-101M	100.00	M	2180.0	2616.0	350	320

* Inductance test Freq.: 100KHz / 0.1V

* T=Tolerance: Y = ±30%, M = ±20%

* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA6020-R80Y	0.8	Y	16.0	21.0	4500	5100
PIA6020-1R0Y	1.0	Y	21.0	27.3	4200	4000
PIA6020-1R5T	1.5	M,Y	26.0	33.8	4000	3200
PIA6020-2R2Y	2.2	Y	34.0	44.2	3200	2700
PIA6020-3R3M	3.3	M	40.0	52.0	2800	2600
PIA6020-4R7Y	4.7	Y	48.0	62.4	2400	2000
PIA6020-6R8M	6.8	M	85.0	110.5	2000	1800
PIA6020-100M	10.0	M	125.0	162.5	1700	1400
PIA6020-220M	22.0	M	220.0	290.0	1050	900
PIA6020-330M	33.0	M	260.0	450.0	900	800
PIA6020-470M	47.0	M	430.0	560.0	850	650

* Inductance test Freq.: 100KHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA6028-R90Y	0.90	Y	13.0	16.9	6600	4600
PIA6028-1R5Y	1.50	Y	16.0	20.8	5000	4200
PIA6028-2R2Y	2.20	Y	20.0	26.0	4200	3700
PIA6028-3R0Y	3.00	Y	23.0	29.9	3600	3400
PIA6028-4R7M	4.70	M	31.0	40.3	2700	3000
PIA6028-6R0M	6.00	M	40.0	52.0	2500	2500
PIA6028-100M	10.00	M	65.0	84.5	1900	1900
PIA6028-150M	15.00	M	95.0	123.5	1600	1800
PIA6028-220M	22.00	M	135.0	175.5	1300	1400
PIA6028-330M	33.00	M	220.0	286.0	1100	1100
PIA6028-470M	47.00	M	300.0	390.0	950	920
PIA6028-680M	68.00	M	420.0	546.0	760	770
PIA6028-101M	100.00	M	600.0	780.0	620	660

* Inductance test Freq.: 100KHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA6040-2R2M	2.20	M	15.0	18.0	7000	5900
PIA6040-4R7M	4.70	M	23.0	29.0	4700	4200
PIA6040-6R8M	6.80	M	32.0	40.0	3700	3300
PIA6040-8R2M	8.20	M	39.0	47.0	3300	2970
PIA6040-100M	10.00	M	40.0	50.0	3200	2800
PIA6040-120M	12.00	M	55.0	69.0	2800	2500
PIA6040-150M	15.00	M	70.0	88.0	2500	2200
PIA6040-220M	22.00	M	98.0	122.0	2000	1800
PIA6040-330M	33.00	M	137.0	172.0	1700	1500
PIA6040-470M	47.00	M	200.0	250.0	1400	1200
PIA6040-560M	56.00	M	245.0	306.0	1300	1150
PIA6040-680M	68.00	M	289.0	362.0	1200	1100
PIA6040-101M	100.00	M	425.0	532.0	1000	900
PIA6040-121M	120.00	M	484.0	605.0	920	820
PIA6040-151M	150.00	M	580.0	725.0	840	750
PIA6040-221M	220.00	M	834.0	1043.0	710	640
PIA6040-331M	330.00	M	1270.0	1580.0	580	520

* Inductance test Freq.: 100KHz / 0.1V

* M=Tolerance= ±20%

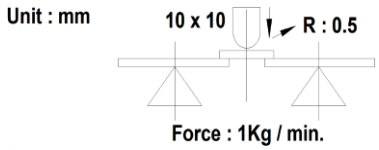
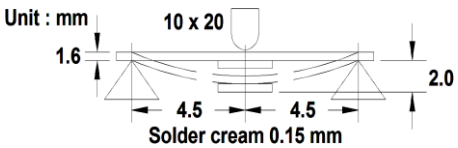
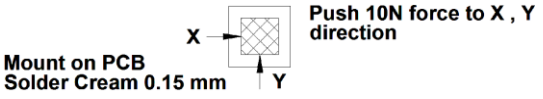
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)

* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (L) (uH)	Tolerance (T)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (mA) Typ.	Irms (mA) Typ.
PIA6045-R82T	0.82	Y	8.0	10.4	10350	4500
PIA6045-1R0T	1.00	Y	14.0	18.2	8500	4200
PIA6045-1R3T	1.30	Y	16.0	20.8	8000	4000
PIA6045-1R8T	1.80	Y	18.0	23.4	7000	3700
PIA6045-2R2T	2.20	M,Y	21.0	27.3	6000	3500
PIA6045-2R3T	2.30	Y	21.0	27.3	6000	3500
PIA6045-3R0T	3.00	Y	24.0	31.2	5000	3200
PIA6045-3R3T	3.30	Y	24.0	31.2	4500	3200
PIA6045-4R5T	4.50	M	31.0	40.3	4000	3000
PIA6045-4R7T	4.70	M	31.0	40.3	4000	3000
PIA6045-6R3T	6.30	M	38.0	49.4	3800	2800
PIA6045-6R8T	6.80	M	36.0	46.9	3500	2600
PIA6045-100T	10.00	M	47.0	61.1	3000	2500
PIA6045-150T	15.00	M	77.0	100.1	2300	1900
PIA6045-220T	22.00	M	115.0	149.5	1900	1500
PIA6045-330T	33.00	M	145.0	188.5	1500	1400
PIA6045-470T	47.00	M	220.0	286.0	1300	1100
PIA6045-680T	68.00	M	330.0	429.0	1000	900
PIA6045-101T	100.00	M	500.0	650.0	800	700

* Inductance test Freq.: 100KHz / 0.1V
* T=Tolerance: Y = ±30%, M = ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

• RELIABILITY

<table>
<tr><th>Test Item</th><th>Test Condition</th><th>Specification</th></tr>
<tr><td>Dimension</td><td>Actual Size ...</td><td>Meet Spec</td></tr>
<tr><td>Thermal Shock
(Temperature Cycle)</td><td>Temperature: -40 ~ +125℃ kept stabilized for 30 min. each
Cycle: 100 Cycles (power off)</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Humidity Resistance</td><td>Humidity: 90% ~ 95% RH
Temperature: 60 ± 2℃ Test Time: 96 ± 2 Hours</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>High Temperature</td><td>Temperature: 125 ± 2℃
Testing Time: 96 ± 2 Hours</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Low Temperature</td><td>Temperature: -40 ± 2℃
Time: 96 ± 2 Hours</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Temperature and
Humidity Cycle</td><td><table><tr><th>Temperature</th><th>Humidity</th><th>Time</th></tr><tr><td>25℃</td><td>90% ~ 95% RH</td><td>3.0 Hr</td></tr><tr><td>55℃</td><td>95% ~ 96% RH</td><td>5.0 Hr</td></tr><tr><td>25℃</td><td>90% ~ 95% RH</td><td>3.0 Hr</td></tr></table>Cycle: 20 Cycles</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Vibration</td><td>Frequency: 10Hz ~ 55Hz , Amplitude: 1.5 mm
Direction: X, Y, Z, Time: 2 Hours each</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Solderability</td><td>Go through real SMT IR-Reflow ....
The profile like our suggest profile.
Preheat: 160 ± 10℃ (90 sec)
Peak: 245 ± 5℃
Peak Time: 50 Sec. / up 217℃</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Soldering Heat
Resistance</td><td>Preheat: 160 ± 10℃ (90 sec)
Solder: Sn / Ag / Cu (Pb Free)
Solder Temp.: 260 ± 5℃, Time: 3 ± 1 seconds</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Iron Solder Heat
Resistance</td><td>Solder Temp.: 350 ± 5℃
Flux: Rosin, Time: 3 ± 1 seconds</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Bending Strength</td><td> 
</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Flexure Strength</td><td> 
</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Terminal Strength</td><td> 
</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>High-Voltage</td><td>100 V DC between core & winding</td><td>Elec. no variation
Appearance no deformation</td></tr>
<tr><td>Load life</td><td>Temperature: 25 ± 3℃
Load: Allowed DC Current, Test Time: 96 ± 2 Hours</td><td>Elec. no variation
Appearance no deformation</td></tr>
</table>

•TEST EQUIPMENT

1. HP4284A, HP42841A - L, Q, DCR, IDC
2. HP8753D Network analyzer – SRF

•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)

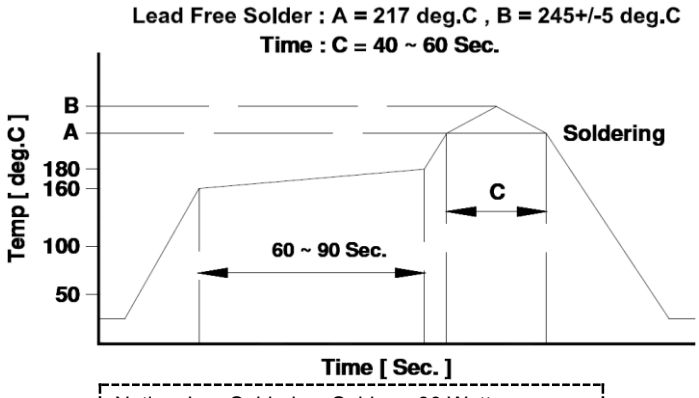
Standard Atmosphere Conditions:

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%

•RECOMMEND IR REFLOW CURVE (TIME: Second)



Notice: Iron Soldering, Solder < 30 Watt,
Direct touch the terminal x 3 Sec. Max. @ 350℃

•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 condense
* 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.

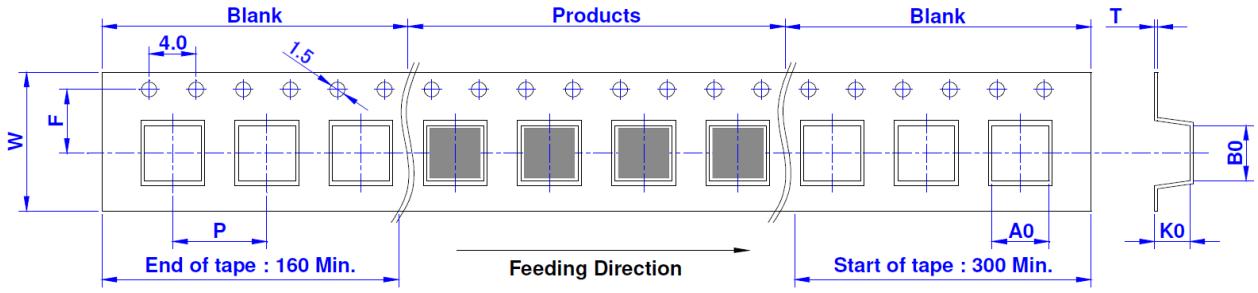
(3) Dielectric Strength:
Dielectric withstanding test with higher voltage than specific value will damage insulating material and shorten its life.

(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.

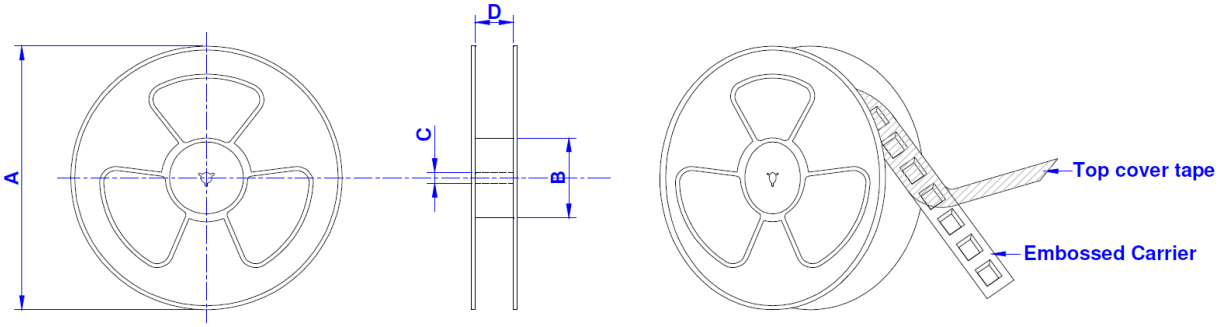
(6) Detergent:
Please consult AiT Semi immediately once under such circumstances because product reliability confirmation etc. is needed when this product come in contact with these chemicals.

●TAPE DIMENSION: mm



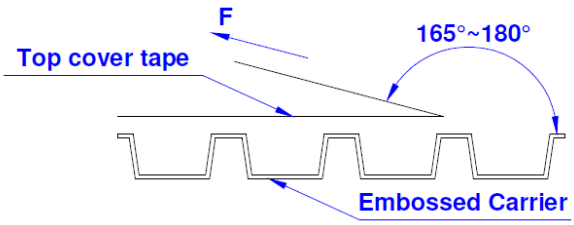
SIZE/mm	W	P	A0	B0	K0	T	F
2510	8	4	2.1	2.6	1.2	0.30	3.5
2512	8	4	2.1	2.6	1.4	0.30	3.5
3010	8	4	3.2	3.2	1.4	0.30	3.5
3012	8	4	3.2	3.2	1.6	0.30	3.5
3015	8	4	3.2	3.2	1.9	0.30	3.5
4010	12	8	4.3	4.3	1.4	0.30	5.5
4018	12	8	4.3	4.3	2.1	0.30	5.5
4020	12	8	4.3	4.3	2.6	0.30	5.5
4030	12	8	4.5	4.5	3.2	0.30	5.5
5014	12	8	5.4	5.4	1.8	0.30	5.5
5020	12	8	5.4	5.4	2.6	0.30	5.5
5040	16	8	5.4	5.4	4.6	0.30	5.5
6012	16	8	6.3	6.3	1.3	0.30	7.5
6020	16	8	6.3	6.3	2.2	0.35	7.5
6028	16	8	6.3	6.3	3.0	0.35	7.5
6040	16	12	6.3	6.3	4.2	0.35	7.5
6045	16	12	6.3	6.3	4.6	0.35	7.5

•REEL DIMENSION: mm



Size / mm	Reel Size	A	B	C	D	QTY / Reel
2510	7" x 8 mm	178	60	13	8.5	3000 PCS
2512	7" x 8 mm	178	60	13	8.5	3000 PCS
2512A	7" x 8 mm	178	60	13	8.5	2000 PCS
2512L	7" x 8 mm	178	60	13	8.5	2000 PCS
3010	7" x 8 mm	178	60	13	8.5	2000 PCS
3012	7" x 8 mm	178	60	13	8.5	2000 PCS
3015	7" x 12 mm	178	60	13	12.5	2000 PCS
4010	13" x 12 mm	330	100	13	12.5	4500 PCS
4018	13" x 12 mm	330	100	13	12.5	3000 PCS
4020	13" x 12 mm	330	100	13	12.5	3000 PCS
4030	13" x 12 mm	330	100	13	12.5	2000 PCS
5014	13" x 12 mm	330	100	13	12.5	3000 PCS
5020	13" x 12 mm	330	100	13	12.5	3000 PCS
5040	13" x 16 mm	330	100	13	16.5	1500 PCS
6012	13" x 16 mm	330	100	13	16.5	3000 PCS
6020	13" x 16 mm	330	100	13	16.5	2500 PCS
6028	13" x 16 mm	330	100	13	16.5	2000 PCS
6040	13" x 16 mm	330	100	13	16.5	1000 PCS
6045	13" x 16 mm	330	100	13	16.5	1500 PCS

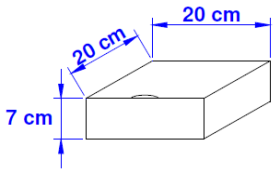
•TEARING OFF FORCE :



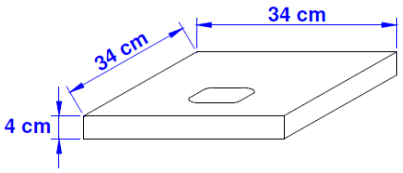
The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions (referenced ANSI/EIA - 481 - D - 2008 of 4.11stadnard).

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

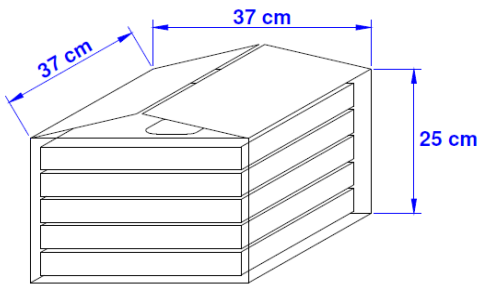
•BOX PACKAGE: cm



7" Small Box



13" Small Box



Large Box

SIZE/mm	Reels in Small Box	Small Box in Large Box
2510	5	8
2512	5	8
2512A	5	8
2512L	5	8
3010	5	8
3012	5	8
3015	4	8
4010	2	5
4018	2	5
4020	2	5
4030	2	5
5014	2	5
5020	2	5
5040	1	5
6012	1	5
6020	1	5
6028	1	5
6040	1	5
6045	1	5

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