

# SPECIFICATIONS

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Customer : \_\_\_\_\_

Customer P/N: \_\_\_\_\_ **AL- Series** \_\_\_\_\_

Drawing No : \_\_\_\_\_

Quantity : **0** Pcs. Date : **2017/09/06**

Chilisin P/N : \_\_\_\_\_ **AL- Series/参照** \_\_\_\_\_

SPECIFICATION ACCEPTED BY:	
<b>COMPONENT ENGINEER</b>	
<b>ELECTRICAL ENGINEER</b>	
<b>MECHANICAL ENGINEER</b>	
<b>APPROVED</b>	
<b>REJECTED</b>	

**For Customer approval Only**

Qualification Status:     Full     Restricted     Rejected

Approved By	Verified By	Re-checked By	Checked By

Comments:  
\_\_\_\_\_

**Meled Electronics Co., Ltd.**

www.meledinc.com

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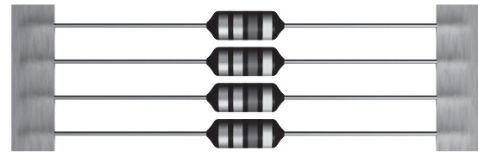
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**Version change history**

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
01	/	New release	/	/

**1. Features**

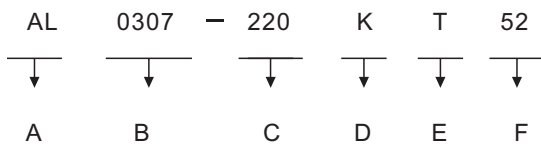
- Wide inductance range
- Suitable for general-purpose application
- Special versions available
- Suitable for wave soldering
- RoHS-compatible



**2. APPLICATIONS**

- RF blocking and filtering
  - Decoupling and interference suppression
  - For antenna systems, automotive electronics, energy-saving lamps, entertainment electronics
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- USB2.0 of IEEE1394, PC, peripheral equipments, small digital AV equipments, etc.
  - LVDS lines of Note PC, LCD
  - Audio lines

**3 PRODUCT IDENTIFICATION**



A:

Product type	
AL	Axial color code inductor

B:

Body Dimensions(mm)		
Type	Dmax	Lmax
0204	2.3	4.2
0307	2.8	7.0
0410	4.0	10.5
0510	5.0	10.5

C:

Nominal Inductance(μH)
<p>★ The first two digits are significant, and the third digit is number of zero</p> <p>For example:                      101=100 μH                      5R6=5.6 μH                      R22=0.22 μH</p>

D:

Tolerance	
J	±5%
K	±10%
M	±20%

## PRODUCT IDENTIFICATION

E:

Packaging style		
reel	T	Reel
Bulk	F	Axial
	L	Straight lead formed
	V	Bent lead formed
	VK	Bent lead K formed

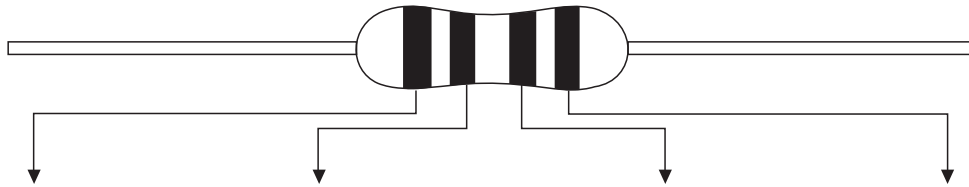
F:

Lead configuration		
reel	52	Tape width: 52
Formed lead	05	Formed lead pitch: 5.08mm
	07	Formed lead pitch: 7.5mm
	10	Formed lead pitch: 10.0mm
	12	Formed lead pitch: 12.5mm
	15	Formed lead pitch: 15.0mm
	17	Formed lead pitch: 17.5mm
	20	Formed lead pitch: 20.0mm

## 4. Shape and Dimensions

Type	Dimensions (mm)					
	$\Phi D \leq$	$L \leq$	t	$\phi d$	$H \geq$	
AL0204	2.3	4.2	t=5.08 ± 0.6 t=7.50 ± 0.6	0.50 ± 0.05		<p>Axial</p> <p>Ltype</p> <p>Vtype</p> <p>VKtype</p>
AL0307	2.8	7.0	t=10.0 ± 0.6 t=12.5 ± 0.6	0.50 ± 0.05	20	
AL0410	4.0	10.5	t=12.5 ± 0.6 t=15.0 ± 0.6 t=17.5 ± 0.6 t=20.0 ± 0.6	0.60 ± 0.05		
AL0510	5.0	10.5	t=15.0 ± 0.6 t=17.5 ± 0.6 t=20.0 ± 0.6	0.60 ± 0.05		

## 5. MARING



	Nominal inductance			Tolerance
	1 <sup>st</sup> colorzone	2 <sup>nd</sup> colorzone	3 <sup>rd</sup> colorzone	4 <sup>th</sup> color zone
	1 <sup>st</sup> digit	2 <sup>nd</sup> digit	3 <sup>rd</sup> digit	
Black	0	0	$\times 10^0$ (1)	M: $\pm 20\%$
Brown	1	1	$\times 10^1$ (10)	
Red	2	2	$\times 10^2$ (100)	
Orange	3	3	$\times 10^3$ (1000)	
Yellow	4	4	$\times 10^4$ (10000)	
Green	5	5	$\times 10^5$ (100000)	
Blue	6	6		
Purple	7	7		
Gray	8	8		
White	9	9		
Gold	/	/	$\times 10^{-1}$ (0.1)	J: $\pm 5\%$
Silver	/	/	$\times 10^{-2}$ (0.01)	K: $\pm 10\%$

For example:

If nominal inductance & tolerance is  $22 \mu\text{H}$ ,  $\pm 5\%$ , respectively, red+red+black+gold should be marked.

If nominal inductance & tolerance is  $1.0 \mu\text{H}$ ,  $\pm 10\%$ , respectively, brown+black+gold+silver should be marked.

If nominal inductance & tolerance is  $0.22 \mu\text{H}$ ,  $\pm 20\%$ , respectively, red+red+silver+black should be marked.

NOTE: only the first three color zones are marked on the body of LGA0204, due to the small body size.

### Appendix A: Electrical Characteristics

#### I. AL0204 TYPE INDUCTORS ELECTRICAL CHARACTERISTICS&TEST CONDITIONS

AL0204 Type	Nominal Inductance (μH)	Q (min)	RDC (Ω) max	Test frequency (MHZ)	SRF (MHZ)min	Rated current I <sub>DC</sub> (mA)max
AL0204-R22	0.22	35	0.40	25.2	150	400
AL0204-R27	0.27	35	0.43	25.2	150	380
AL0204-R33	0.33	35	0.48	25.2	150	370
AL0204-R39	0.39	35	0.51	25.2	150	350
AL0204-R47	0.47	35	0.56	25.2	150	330
AL0204-R56	0.56	35	0.61	25.2	150	320
AL0204-R68	0.68	35	0.67	25.2	150	310
AL0204-R82	0.82	35	0.74	25.2	150	290
AL0204-1R0	1.0	35	0.80	25.2	150	270
AL0204-1R2	1.2	40	0.90	7.96	110	260
AL0204-1R5	1.5	40	1.0	7.96	80	250
AL0204-1R8	1.8	40	1.1	7.96	60	240
AL0204-2R2	2.2	40	1.2	7.96	45	230
AL0204-2R7	2.7	40	1.3	7.96	40	220
AL0204-3R3	3.3	40	1.4	7.96	38	210
AL0204-3R9	3.9	40	1.6	7.96	35	200
AL0204-4R7	4.7	40	1.7	7.96	32	190
AL0204-5R6	5.6	40	1.9	7.96	30	180
AL0204-6R8	6.8	40	2.0	7.96	28	175
AL0204-8R2	8.2	40	2.2	7.96	26	165
AL0204-100	10	40	2.5	7.96	24	160
AL0204-120	12	40	2.6	2.52	22	150
AL0204-150	15	40	2.8	2.52	20	145
AL0204-180	18	40	3.1	2.52	18	140
AL0204-220	22	40	3.4	2.52	17	130
AL0204-270	27	40	4.3	2.52	16	80
AL0204-330	33	40	4.7	2.52	14	76
AL0204-390	39	40	5.2	2.52	13	74
AL0204-470	47	40	5.8	2.52	12	70
AL0204-560	56	40	6.4	2.52	11	68
AL0204-680	68	40	7.2	2.52	10	64
AL0204-820	82	40	11.0	2.52	9.5	46
AL0204-101	100	40	12.0	2.52	9.0	44
AL0204-121	120	40	13.0	0.796	8.0	42
AL0204-151	150	40	16.0	0.796	6.0	39
AL0204-181	180	40	18.0	0.796	5.5	37
AL0204-221	220	40	20.0	0.796	5.0	35
Test equipment	HP4285A (HP4286A, HP4287A)		HP4338B		HM9461	HP42841A
Ambient temperature	18~25℃					
Ambient humidity	45%~75%					

### Appendix A: Electrical Characteristics

#### II. AL0307 TYPE INDUCTORS ELECTRICAL CHARACTERISTICS&TEST CONDITIONS

AL0307 Type	Nominal Inductance ( $\mu$ H)	Q (min)	RDC ( $\Omega$ ) max	Test frequency (MHZ)	SRF (MHZ)min	Rated current $I_{DC}$ (mA)max
AL0307-R10	0.10	35	0.35	25.2	150	450
AL0307-R15	0.15	35	0.38	25.2	150	420
AL0307-R22	0.22	35	0.40	25.2	150	400
AL0307-R27	0.27	35	0.43	25.2	150	380
AL0307-R33	0.33	35	0.48	25.2	150	370
AL0307-R39	0.39	35	0.51	25.2	150	350
AL0307-R47	0.47	35	0.56	25.2	150	330
AL0307-R56	0.56	35	0.61	25.2	150	320
AL0307-R68	0.68	35	0.67	25.2	150	310
AL0307-R82	0.82	35	0.74	25.2	150	290
AL0307-1R0	1.0	35	0.80	25.2	150	270
AL0307-1R2	1.2	40	0.90	7.96	144	260
AL0307-1R5	1.5	40	1.0	7.96	131	250
AL0307-1R8	1.8	50	1.1	7.96	121	240
AL0307-2R2	2.2	50	1.2	7.96	110	230
AL0307-2R4	2.4	50	1.3	7.96	100	220
AL0307-2R7	2.7	50	1.3	7.96	100	220
AL0307-3R3	3.3	50	1.4	7.96	94	210
AL0307-3R6	3.6	50	1.6	7.96	65	200
AL0307-3R9	3.9	50	1.6	7.96	65	200
AL0307-4R2	4.2	50	1.7	7.96	56	190
AL0307-4R3	4.3	50	1.7	7.96	56	190
AL0307-4R7	4.7	50	1.7	7.96	56	190
AL0307-5R6	5.6	50	1.9	7.96	48	180
AL0307-6R8	6.8	50	2.0	7.96	37	175
AL0307-8R2	8.2	50	2.2	7.96	25	165
AL0307-100	10	50	2.5	7.96	21	160
AL0307-120	12	50	2.6	2.52	19	150
AL0307-150	15	50	2.8	2.52	17	145
AL0307-180	18	50	3.1	2.52	13	140
AL0307-220	22	50	3.4	2.52	9.6	130
AL0307-270	27	50	3.8	2.52	7.2	125
AL0307-330	33	50	4.1	2.52	6.3	120
AL0307-360	36	50	4.5	2.52	6.3	115
AL0307-390	39	50	4.5	2.52	6.3	115
AL0307-430	43	50	4.9	2.52	6.3	110
AL0307-470	47	50	4.9	2.52	6.3	110
AL0307-560	56	50	5.3	2.52	6.2	105
AL0307-600	60	50	5.8	2.52	5.7	100
AL0307-620	62	50	5.8	2.52	5.7	100
AL0307-680	68	50	5.8	2.52	5.7	100
AL0307-750	75	50	6.3	2.52	5.3	95
AL0307-820	82	50	6.3	2.52	5.3	95
AL0307-910	91	50	6.3	2.52	5.3	95
AL0307-101	100	50	7.0	2.52	4.8	90
AL0307-121	120	50	13.0	0.796	3.8	90
AL0307-151	150	50	15.0	0.796	3.5	85
AL0307-181	180	50	16.0	0.796	3.3	80
AL0307-201	200	50	17.0	0.796	3.0	75
AL0307-221	220	50	17.0	0.796	3.0	75
AL0307-271	270	50	19.0	0.796	2.8	65
AL0307-331	330	50	20.0	0.796	2.6	60
AL0307-391	390	50	22.0	0.796	2.4	55
AL0307-471	470	50	24.0	0.796	2.25	55
AL0307-561	560	50	26.0	0.796	2.10	50
AL0307-621	620	50	28.0	0.796	1.95	45
AL0307-681	680	50	28.0	0.796	1.95	45
AL0307-821	820	50	30.0	0.796	1.85	40
AL0307-102	1000	50	33.0	0.796	1.40	40

### Appendix A: Electrical Characteristics

Test equipment	HP4285A (HP4286A, HP4287A)	HP4338B	HM9461	HP42841A
Ambient temperature	18~25°C			
Ambient humidity	45%~75%			

### III. AL0410 TYPE INDUCTORS ELECTRICAL CHARACTERISTICS & TEST CONDITIONS

AL0410 Type	Nominal Inductance ( $\mu$ H)	Q (min)	RDC ( $\Omega$ ) max	Test frequency (MHZ)	SRF (MHZ)min	Rated current $I_{DC}$ (mA)max
AL0410-R22	0.22	45	0.10	25.2	300	1400
AL0410-R27	0.27	45	0.11	25.2	270	1320
AL0410-R33	0.33	45	0.12	25.2	250	1280
AL0410-R39	0.39	45	0.13	25.2	230	1200
AL0410-R47	0.47	45	0.14	25.2	220	1150
AL0410-R56	0.56	45	0.15	25.2	200	1122
AL0410-R68	0.68	45	0.16	25.2	190	1030
AL0410-R82	0.82	45	0.17	25.2	172	980
AL0410-1R0	1.0	45	0.19	25.2	157	920
AL0410-1R2	1.2	50	0.21	7.96	144	880
AL0410-1R5	1.5	50	0.23	7.96	131	830
AL0410-1R8	1.8	55	0.25	7.96	121	790
AL0410-2R2	2.2	55	0.28	7.96	110	750
AL0410-2R7	2.7	60	0.30	7.96	100	720
AL0410-3R3	3.3	65	0.34	7.96	94	670
AL0410-3R9	3.9	65	0.37	7.96	65	640
AL0410-4R2	4.2	70	0.39	7.96	56	620
AL0410-4R7	4.7	70	0.39	7.96	56	620
AL0410-5R6	5.6	70	0.43	7.96	48	590
AL0410-6R2	6.2	75	0.48	7.96	37	550
AL0410-6R8	6.8	75	0.48	7.96	37	550
AL0410-7R5	7.5	80	0.52	7.96	25	530
AL0410-8R2	8.2	80	0.52	7.96	25	530
AL0410-100	10	65	0.58	7.96	21	500
AL0410-120	12	50	0.63	2.52	19	480
AL0410-150	15	50	0.72	2.52	17	460
AL0410-180	18	50	0.77	2.52	13	430
AL0410-220	22	50	0.84	2.52	9.6	410
AL0410-270	27	55	0.94	2.52	7.2	390
AL0410-330	33	55	1.03	2.52	6.3	370
AL0410-360	36	50	1.12	2.52	6.3	350
AL0410-390	39	50	1.12	2.52	6.3	350
AL0410-470	47	45	1.22	2.52	6.3	340
AL0410-560	56	40	1.34	2.52	6.2	320
AL0410-680	68	40	1.47	2.52	5.7	305
AL0410-730	73	40	1.47	2.52	5.7	305
AL0410-750	75	35	1.62	2.52	5.3	290
AL0410-810	81	35	1.62	2.52	5.3	290
AL0410-820	82	35	1.62	2.52	5.3	290
AL0410-900	90	35	1.62	2.52	5.3	290
AL0410-101	100	30	1.80	2.52	4.8	275
AL0410-111	110	55	3.70	0.796	3.8	185
AL0410-121	120	55	3.70	0.796	3.8	185
AL0410-141	140	45	4.20	0.796	3.5	175
AL0410-151	150	45	4.20	0.796	3.5	175
AL0410-181	180	50	4.60	0.796	3.3	165
AL0410-221	220	55	5.10	0.796	3.0	155



### Appendix A: Electrical Characteristics

#### III. AL0410 TYPE INDUCTORS ELECTRICAL CHARACTERISTICS & TEST CONDITIONS

AL0410 Type	Nominal Inductance (μH)	Q (min)	RDC (Ω) max	Test frequency (MHZ)	SRF (MHZ)min	Rated current I <sub>dc</sub> (mA)max
AL0410-271	270	65	5.80	0.796	2.8	145
AL0410-331	330	65	6.40	0.796	2.6	137
AL0410-391	390	65	7.00	0.796	2.4	133
AL0410-471	470	60	7.70	0.796	2.25	126
AL0410-561	560	60	8.50	0.796	2.10	120
AL0410-681	680	55	9.40	0.796	1.95	113
AL0410-821	820	55	10.50	0.796	1.85	105
AL0410-102	1000	50	14.00	0.796	1.40	100
AL0410-122	1200	50	20.00	0.252	1.20	90
AL0410-152	1500	30	25.00	0.252	1.10	85
AL0410-172	1700	30	30.00	0.252	0.90	80
AL0410-182	1800	30	30.00	0.252	0.90	80
AL0410-202	2000	30	30.00	0.252	0.80	75
AL0410-222	2200	30	35.00	0.252	0.80	75
AL0410-252	2500	30	40.00	0.252	0.70	70
AL0410-272	2700	30	40.00	0.252	0.70	70
AL0410-302	3000	30	65.00	0.252	0.65	65
AL0410-332	3300	30	65.00	0.252	0.65	65
AL0410-392	3900	30	71.00	0.252	0.65	50
AL0410-472	4700	30	78.00	0.252	0.60	40
AL0410-562	5600	30	100.00	0.252	0.56	30
AL0410-682	6800	30	125.00	0.252	0.54	30
Test equipment	HP4285A (HP4286A, HP4287A)		HP4338B		HM9461	HP42841A
Ambient temperature	18~25°C					
Ambient humidity	45%~75%					

#### IV. AL0510 TYPE INDUCTORS ELECTRICAL CHARACTERISTICS & TEST CONDITIONS

AL0510 Type	Nominal Inductance (μH)	Q (min)	RDC (Ω) max	Test frequency (MHZ)	SRF (MHZ)min	Rated current I <sub>dc</sub> (mA)max
AL0510-2R2	2.2	20	0.05	7.96	50	126
AL0510-3R3	3.3	20	0.06	7.96	50	126
AL0510-3R9	3.9	20	0.06	7.96	50	126
AL0510-4R7	4.7	20	0.06	7.96	45	900
AL0510-5R6	5.6	20	0.36	7.96	45	126
AL0510-6R8	6.8	20	0.36	7.96	45	126
AL0510-100	10	60	0.45	7.96	30	126
AL0510-220	22	60	0.65	2.52	8.0	450
AL0510-330	33	60	0.65	0.796	1.9	126
AL0510-470	47	60	0.65	0.796	1.9	126
AL0510-680	68	60	0.74	0.796	1.9	126
AL0510-820	82	20	0.82	2.52	3.8	330
AL0510-101	100	30	0.75	2.52	3.5	300
AL0510-121	120	20	1.2	0.796	3.3	250
AL0510-151	150	20	1.8	0.796	3.2	225
AL0510-181	180	20	2.0	0.796	2.8	200

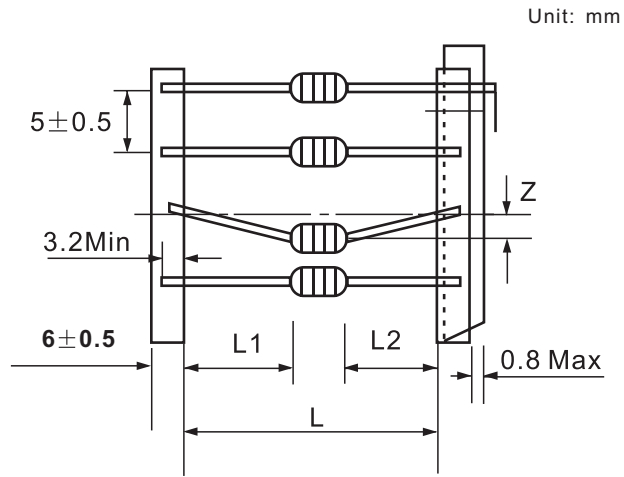
### Appendix A: Electrical Characteristics

#### IV. AL0510 TYPE INDUCTORS ELECTRICAL CHARACTERISTICS & TEST CONDITIONS

AL0510 Type	Nominal Inductance (μH)	Q (min)	RDC (Ω) max	Test frequency (MHZ)	SRF (MHZ)min	Rated current I <sub>DC</sub> (mA)max
AL0510-221	220	30	2.1	0.796	2.6	180
AL0510-271	270	30	2.5	0.796	2.4	170
AL0510-331	330	30	3.0	0.796	2.2	160
AL0510-391	390	30	3.5	0.796	2.0	150
AL0510-471	470	60	7.70	0.796	1.9	126
AL0510-561	560	50	8.50	0.796	1.8	120
AL0510-681	680	55	9.00	0.796	1.5	113
AL0510-801	800	50	9.90	0.796	1.5	113
AL0510-821	820	45	10.5	0.796	1.2	105
AL0510-102	1000	45	14.0	0.252	1.0	100
AL0510-122	1200	40	16.9	0.252	0.95	95
AL0510-152	1500	40	21.6	0.252	0.90	90
AL0510-182	1800	40	24.0	0.252	0.85	85
AL0510-202	2000	40	30.2	0.252	1.9	80
AL0510-222	2200	40	34.7	0.252	0.80	80
AL0510-272	2700	40	40.0	0.252	0.75	75
AL0510-302	3000	40	59.5	0.252	0.70	62
AL0510-332	3300	40	59.5	0.252	0.70	62
AL0510-392	3900	40	66.0	0.252	0.65	59
AL0510-402	4000	40	74.0	0.252	0.60	55
AL0510-472	4700	40	74.0	0.252	0.60	55
AL0510-562	5600	30	80.0	0.252	0.50	40
AL0510-682	6800	30	85.0	0.252	0.45	35
AL0510-762	7600	30	95.0	0.252	0.40	30
AL0510-822	8200	30	95.0	0.252	0.40	30
AL0510-103	10000	25	105.0	0.0796	0.35	25
AL0510-163	16000	25	155.0	0.0796	0.30	25
AL0510-223	22000	20	315.0	0.0796	0.25	25

Products with other electrical characteristic can be provided upon customer's request. Please contact your local sales.

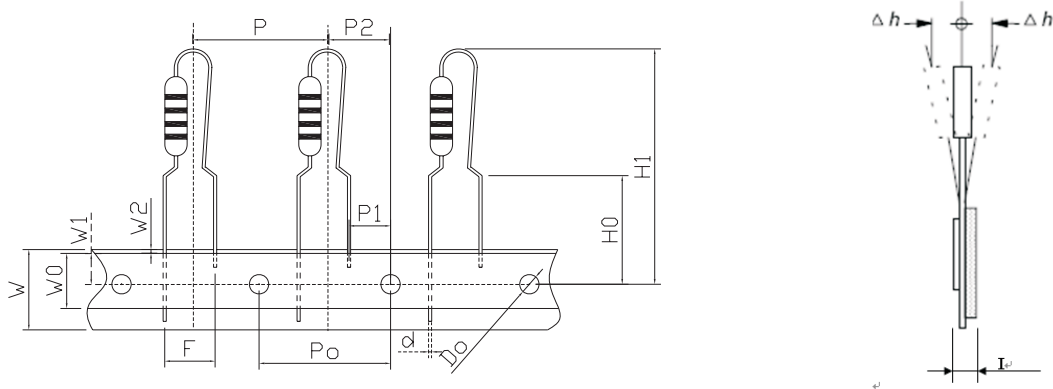
- PACKAGING STYLE
- TAPING DIMENSIONS



Tape style	L	Z	L1-L2
Tape width :26	$26 \pm 1.0$	0.8 Max	1.0 Max
Tapewidth :52	$52 \begin{smallmatrix} +2.0 \\ -1.0 \end{smallmatrix}$	1.2 Max	

- VERTICAL TAPING DIMENSIONS

Unit: mm



Code1	P	P0	P1	P2	d	$\Delta h$	W	W0	W1	W2	H0	H1	D0	I	F
Dim.	12.7	12.7	3.85	6.35	0.6	0	18.5	12	9	1.5	15-20	32.25	4.0	1.4	5
Tol.	$\pm 1.0$	$\pm 0.2$	$\pm 0.7$	$\pm 0.4$	$\pm 0.1$	$\pm 1.0$	$\pm 1.0$	$\pm 1.0$	$\pm 1.0$	$\pm 1.5$	$\pm 0.5$	Max	$\pm 0.2$	Max	$\pm 0.8$

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