

SMD Type Power Inductors

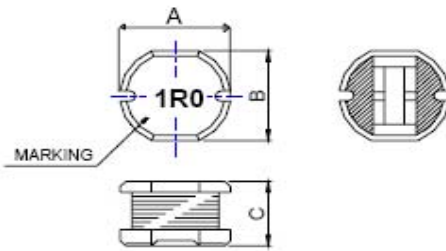
TP0504-SERIES

1. Features

1. Excellent solderability and high heat resistance.
2. Excellent terminal strength construction.
3. Packed in embossed carrier tape and can be used by automatic mounting machine.
4. The products contain no lead and also support lead-free soldering.



2. Dimension



Size	A(mm)	B(mm)	C(mm)
TP0504	5.80±0.3	5.20±0.3	4.50±0.3

Unit: mm

3. Part Numbering

TP
0504 -
 1R0
M

A C D

A: Series

B: Dimension AxC

C: Inductance

1R0=1.0uH

D: Inductance Tolerance

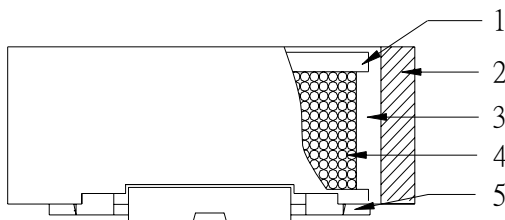
K=±10%,m=±20%

4. Specification

BULLWILL Part Number	Inductance (uH)		DCR (Ω) max.	Rated Current (A) max.
	Tolerance	Test Frequency (Hz)		
TP0504-1R0M	1.0 ±20%	1V/7.96M	0.018	3.50
TP0504-1R4M	1.4 ±20%	1V/7.96M	0.02	3.50
TP0504-1R8M	1.8 ±20%	1V/7.96M	0.025	3.00
TP0504-2R2M	2.2 ±20%	1V/7.96M	0.03	2.80
TP0504-2R7M	2.7 ±20%	1V/7.96M	0.035	2.60
TP0504-3R3M	3.3 ±20%	1V/7.96M	0.04	2.50
TP0504-3R9M	3.9 ±20%	1V/7.96M	0.05	2.30
TP0504-4R7M	4.7 ±20%	1V/7.96M	0.06	2.60
TP0504-5R6M	5.6 ±20%	1V/7.96M	0.07	2.40

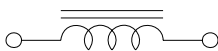
BULLWILL Part Number	Inductance (uH)		DCR (Ω) max	Rated Current (A) max..
	Tolerance	Test Frequency (Hz)		
TP0504-6R8M	6.8±20%	1V/7.96M	0.08	2.20
TP0504-8R2M	8.2±20%	1V/7.96M	0.08	2.00
TP0504-100M	10 ±20%	1V/2.52M	0.09	1.80
TP0504-120M	12 ±20%	1V/2.52M	0.1	1.60
TP0504-150M	15±20%	1V/2.52M	0.12	1.50
TP0504-180M	18±20%	1V/2.52M	0.15	1.40
TP0504-220M,	22±20%	1V/2.52M	0.18	1.30
TP0504-270M	27±20%	1V/2.52M	0.22	1.20
TP0504-330M	33±20%	1V/2.52M	0.26	1.00
TP0504-390M	39±20%	1V/2.52M	0.30	0.90
TP0504-470M	47±20%	1V/2.52M	0.35	0.85
TP0504-560M	56±20%	1V/2.52M	0.40	0.80
TP0504-680M	68±20%	1V/2.52M	0.45	0.70
TP0504-820M	82±20%	1V/2.52M	0.50	0.70
TP0504-101M	100±20%	1V/1K	0.70	0.60
TP0504-121M	120±20%	1V/1K	0.75	0.60
TP0504-151M	150±20%	1V/1K	0.90	0.55
TP0504-181M	180±20%	1V/1K	1.1	0.50
TP0504-221M	220±20%	1V/1K	1.2	0.40
TP0504-271M	270±20%	1V/1K	1.5	0.25
TP0504-331M	330±20%	1V/1K	3	0.22
TP0504-391M	390±20%	1V/1K	3.5	0.20
TP0504-471M	470±20%	1V/1K	4	0.19
TP0403-561M	560±20%	1V/1K	4	0.18
TP0403-681M	680±20%	1V/1K	4.5	0.15

5. Material List



NO	ITEM	MATERIAL
1	CORE	FERRITE CORE (DR TYPE)
2	CORE	FERRITE CORE (RI TYPE)
3	GLUE	G500
4	WIRE	ENAMELLED COPPER WIRE
5	CLIP	SM212-032ET2N

6. Schematic Diagram



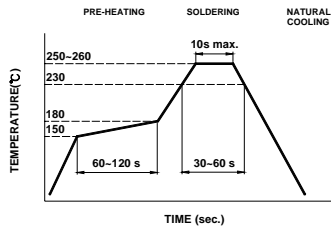


Figure 1. Re-flow Soldering(Lead Free)

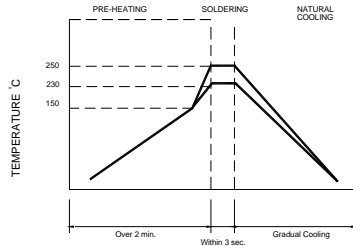


Figure 2. Wave Soldering

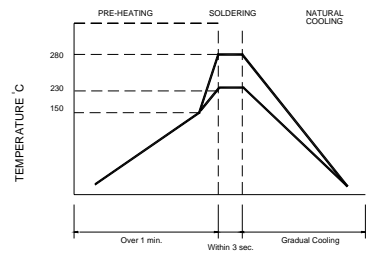
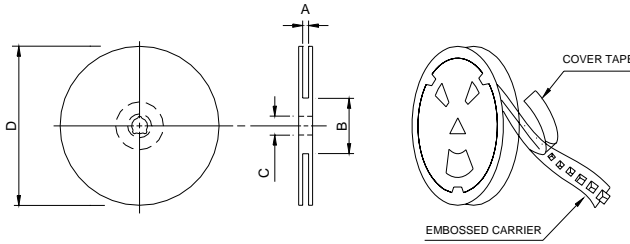


Figure 3. Hand Soldering

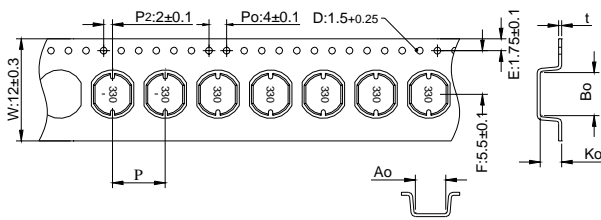
7. Packaging Information

7-1. Reel Dimension



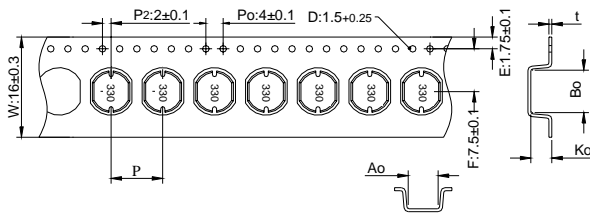
Type	A(mm)	B(mm)	C(mm)	D(mm)
13"x12mm	12.5±0.1	100±1	13±0.5	330
13"x16mm	16.5±0.1	100±1	13±0.5	330
13"x24mm	24.5±0.1	100±1	13±0.5	330

7-2.1 Tape Dimension / 12mm



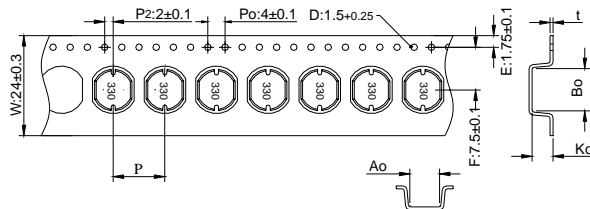
Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
0302	3.7±0.1	3.2±0.1	2.3±0.1	8.0±0.1	0.35±0.05
0403	4.6±0.1	4.1±0.1	3.6±0.1	8.0±0.1	0.40±0.05
0502	6.0±0.1	5.4±0.1	2.3±0.1	8.0±0.1	0.35±0.05
0504	6.1±0.1	5.3±0.1	4.8±0.1	8.0±0.1	0.40±0.05

7-2.2 Tape Dimension / 16mm



Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
0703	8.1±0.1	7.3±0.1	4.0±0.1	12.0±0.1	0.40±0.05
0705	8.1±0.1	7.3±0.1	5.3±0.1	12.0±0.1	0.40±0.05

7-2.3 Tape Dimension / 24mm

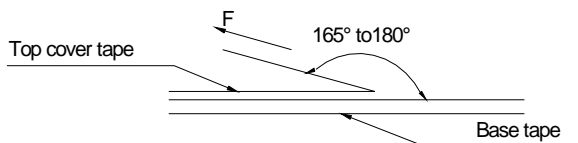


Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
1004	10.3±0.1	9.3±0.1	4.5±0.1	16.0±0.1	0.40±0.05
1005	10.3±0.1	9.3±0.1	6.1±0.1	16.0±0.1	0.40±0.05

7-3. Packaging Quantity

Size	1005	1004	0705	0703	0504	0502	0403	0302
Chip / Reel	500	500	1000	1000	1500	3000	2000	3000
Inner box	1500	1500	4000	4000	4500	9000	6000	9000
Carton	3000	3000	8000.	8000	18000	36000	24000	36000

7-4. Tearing Off Force



The force for tearing off cover tape is 12 to 130 grams in the arrow direction under the following conditions.

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

Application Notice

• Storage Conditions

To maintain the solderability of terminal electrodes:

1. Temperature and humidity conditions: Less than 40°C and 70% RH.
2. Recommended products should be used within 6 months form the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

• Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.