

1	2	3	4	5	6	7	8																
REACH & RoHS COMPLIANT																							
introduction		Dimensions (unit:mm)																					
• Halogen Free ,ROHS compliance • High rated current • 125℃ maximum total temperature operation • 4.75 x 4.45 x 1.2mm maximum surface mount package • Low core loss • Ultra low buzz noise due to molding construction																							
Applications																							
• Laptops and PCs • Switch and servers • Base stations • DC/DC converters • Battery powered devices • SSD modules																							
Product Identification		Recommend Land Pattern																					
YTA ① 0412 ② --1R5 ③ M ④																							
① YTA ----- Series name ② 0412 ----- Dimension ③ 1R5 ----- Inductance Value (1R5 = 1.5μH) ④ M ----- Inductance Tolerance (M= ± 20%)		<table><tr><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>a typ</td><td>b typ</td><td>c typ</td></tr><tr><td>4.4±0.35</td><td>4.2±0.25</td><td>1.0±0.2</td><td>0.8±0.3</td><td>2.0±0.3</td><td>2.2</td><td>5.2</td><td>2.5</td></tr></table>						A	B	C	D	E	a typ	b typ	c typ	4.4±0.35	4.2±0.25	1.0±0.2	0.8±0.3	2.0±0.3	2.2	5.2	2.5
A	B	C	D	E	a typ	b typ	c typ																
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VOOHU 苏州沃虎电子科技有限公司 Su Zhou Voohu Electronic Tech.Co.Ltd		TITLE: YTA0412 Series		SIZE A4	UNITS MM[INCH]	GENERAL TOLERANCES UNLESS SPECIFIED		APPROVED BY: Geoffrey.Song															
		PART NO.: YTA0412系列规格书	SACLE 1:1	REV A0	x±0.35 .x±0.30	x°±3.0° .x°±2.0°	CHECKED BY: Elvis.Song																
TEL: +86 400 1048 018	WEB: WWW.WOHU-TEK.COM	REMARK:	SHEET 1/7		.xx±0.25 .xxx±0.10	.xx°±1.5° .xxx°±1.0°	DESIGND BY: Sunny.Xu																

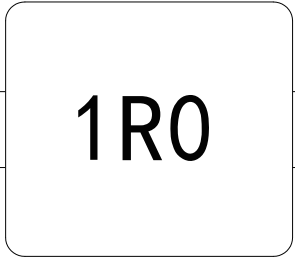
REACH & RoHS
COMPLIANT

Marking

The inductor is marked with a 3-digit code

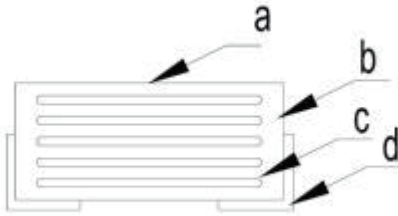
Nominal Inductance	
Example	Nominal Value
1R0	1.0 μ H
100	10 μ H
101	100 μ H

Note : Using Ink for marking



Structure and Components

Symbol	Components	Material
a	MARKING	Ink (black)
b	CORE	Alloy Sponge Powder
c	WIRE	Polyurethane copper wire
d	Terminal	Copper plated with Sn



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REMARK:

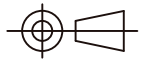
SIZE
A4

SACLE
1:1

SHEET
2/7

UNITS
MM[INCH]

REV
A0



GENERAL TOLERANCES
UNLESS SPECIFIED

$x \pm 0.35$	$x^\circ \pm 3.0^\circ$
$.x \pm 0.30$	$.x^\circ \pm 2.0^\circ$

$.xx \pm 0.25$	$.xx^\circ \pm 1.5^\circ$
$.xxx \pm 0.10$	$.xxx^\circ \pm 1.0^\circ$

APPROVED BY:
Geoffrey.Song

CHECKED BY:
Elvis.Song

DESIGND BY:
Sunny.Xu

	1	2	3	4	5	6	7	8
H	REACH & RoHS COMPLIANT							
G								
F								
E								
D								
C								
B								
A								

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating	
	L0 (μH)	DCR (mΩ)	Isat (A)	Current	
	±20 %, 100 kHz, 1V	MAX.	TYP.	Irms (A)	
WHYTA0412-R15M	0.15	9	15	7.5	
WHYTA0412-R22M	0.22	11	11	7	
WHYTA0412-R33M	0.33	19	8.4	6.5	
WHYTA0412-R47M	0.47	21	6.8	6	
WHYTA0412-R68M	0.68	36	6	4.7	
WHYTA0412-1R0M	1.0	47	5.5	4.5	
WHYTA0412-1R5M	1.5	75	4	3.25	
WHYTA0412-2R2M	2.2	83.5	3	2.75	
WHYTA0412-4R7M	4.7	195	2.2	1.8	

Notes

1. All test data is referenced to 25 °C ambient

2. Operating temperature range - 55 °C to + 125 °C

3. Irms (A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25 °C)

4. Isat(A):DC current (A) that will cause L0 to drop approximately 30 %

5. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions.

Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions

all affect the part temperature. Part temperature should be verified in the end application.

VOOHU 苏州沃虎电子科技有限公司 Su Zhou Voohu Electronic Tech.Co.Ltd	TITLE:		SIZE	UNITS	GENERAL TOLERANCES		APPROVED BY:
	YTA0412 Series		A4	MM[INCH]	UNLESS SPECIFIED		Geoffrey.Song
	PART NO.:		SACLE	REV	x±0.35	x°±3.0°	CHECKED BY:
		YTA0412系列规格书	1:1	A0	.x±0.30	.x°±2.0°	Elvis.Song
		REMARK:	SHEET		.xx±0.25	.xx°±1.5°	DESIGND BY:
			3/7		.xxx±0.10	.xxx°±1.0°	Sunny.Xu

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Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	1. No case deformation or change in apperance	1.Preheat: 155℃±5℃ , 60S±2S 2.Tin: lead-free. 3.Temperature:240℃±5℃, flux 3.0S±0.5S.
	2. New solder coverage More than 95%	
Mechanical shock	1. No case deformation or change in apperance	1. Acceleration: 100G 2. Pulse time:: 6ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions
	2. $\Delta L/Lo \leq \pm 10\%$	
Mechanical vibration	1. No case deformation or change in apperance	1. Reflow: 2times 2. Frequency: 10HZ~55HZ~10HZ, 20 Min/Cycles 3. Amplitude: 1.52 mm 4. Directions: X,Y,Z 5. Time: 12 cycle / direction
	2. $\Delta L/Lo \leq \pm 10\%$	
Endurance Reliability		
Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. First -55℃ for 30 minutes, last 125℃ for 30 minutes as 1 cycle. Go through 1000 cycles. 2. Max transfer time is 3 minutes. 3. Measured at room temperature after placing for 24±2 hours
Humidity Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1.Reflow 2 times, 2.85℃,85%RH,1000 hours 3.Measured at room temperature after placing for 24±2 hours
Low temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Temperature: -55 $\pm 2^\circ\text{C}$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24±2 hours
High temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Temperature: +125 $\pm 2^\circ\text{C}$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24±2 hours

Recommended Soldering Technologies

(1)Re-flowing Profile

Preheat condition: 150 ~200℃/60~180sec.

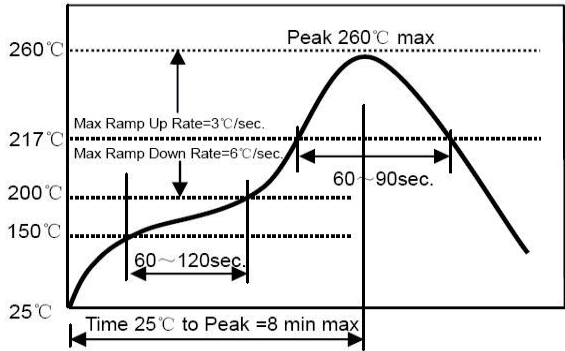
Allowed time above 217℃: 80~120sec.

Max temp: 260℃

Max time at max temp: 5 sec.

Solder paste: Sn/3.0Ag/0.5Cu

Allowed Reflow time: 2x max



(2)Iron Soldering Profile

Iron soldering power: Max. 30W

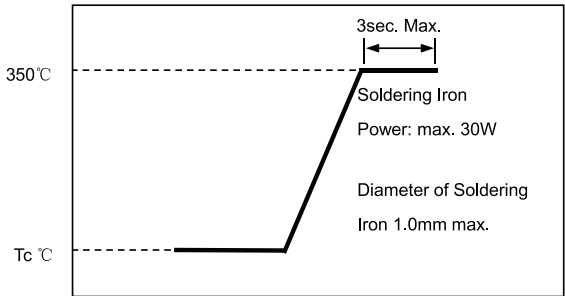
Pre-heating: 150℃/60sec.

Soldering Tip temperature: 350℃ Max.

Soldering time: 3sec. Max.

Solder paste: Sn/3.0Ag/0.5Cu

Max.1 times for iron soldering



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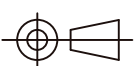
SIZE
A4

SACLE
1:1

SHEET
4/7

UNITS
MM[INCH]

REV
A0



GENERAL TOLERANCES
UNLESS SPECIFIED

x±0.35
.x±0.30
.xx±0.25
.xxx±0.10

APPROVED BY:
Geoffrey.Song

CHECKED BY:
Elvis.Song

DESIGND BY:
Sunny.Xu

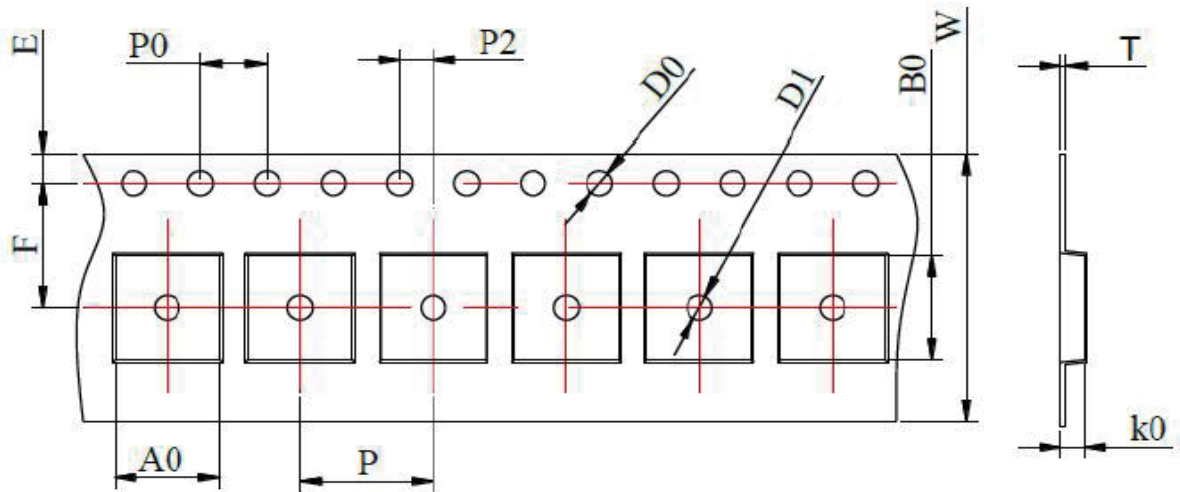
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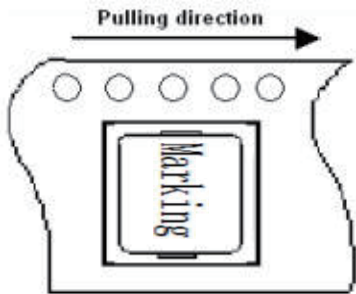
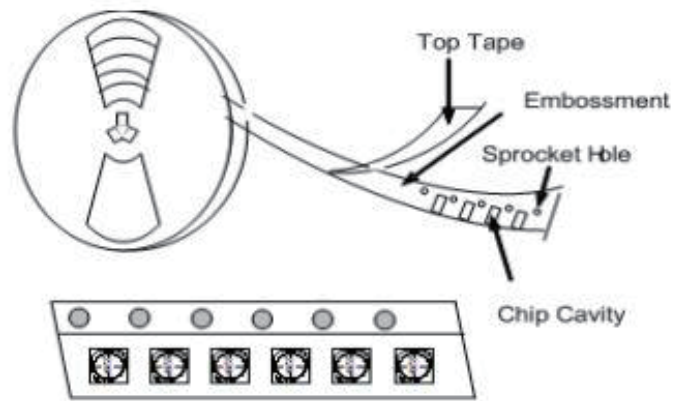
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Packaging Information

(1) Tape Packaging Dimensions (Unit: mm)



Taping Drawings (UNIT:mm)



Type	Tape dimensions (mm)											
	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F
WHYTA0412	12 ±0.3	8 ±0.1	4 ±0.1	2 ±0.1	1.5 ±0.1	1.5 ±0.1	0.35 ±0.05	4.5 ±0.1	4.85 ±0.1	1.5 ±0.1	1.75 ±0.1	5.5 ±0.1

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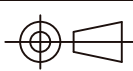
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A4

SACLE
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SHEET
5/7

UNITS
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GENERAL TOLERANCES
UNLESS SPECIFIED

$x \pm 0.35$
 $.x \pm 0.30$

$.xx \pm 0.25$
 $.xxx \pm 0.10$

$x^\circ \pm 3.0^\circ$
 $.x^\circ \pm 2.0^\circ$

$.xx^\circ \pm 1.5^\circ$
 $.xxx^\circ \pm 1.0^\circ$

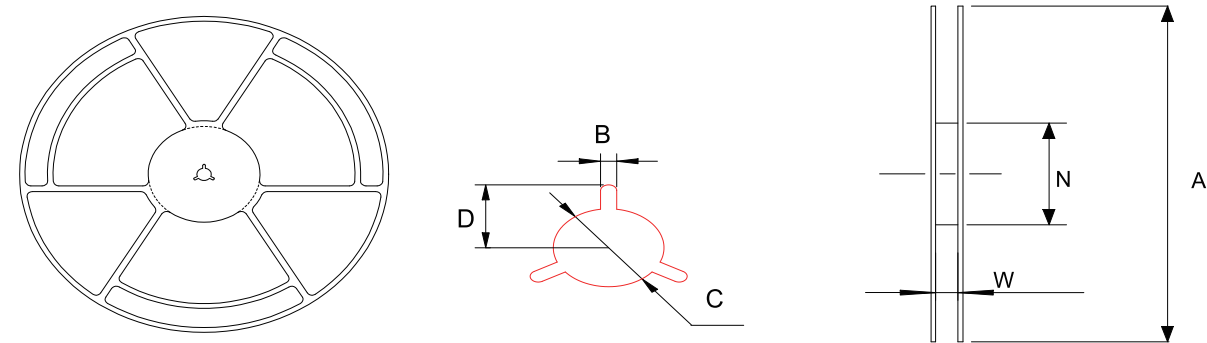
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Geoffrey.Song

CHECKED BY:
Elvis.Song

DESIGND BY:
Sunny.Xu

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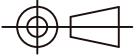
(2) Reel Dimensions (Unit: mm)



A	W	N	B	C	D
330+2.0	12.8±0.2	97±0.5	2.2+0.5	13.0±0.2	10.75±0.25

(3) Packaging Quantity(PCS)

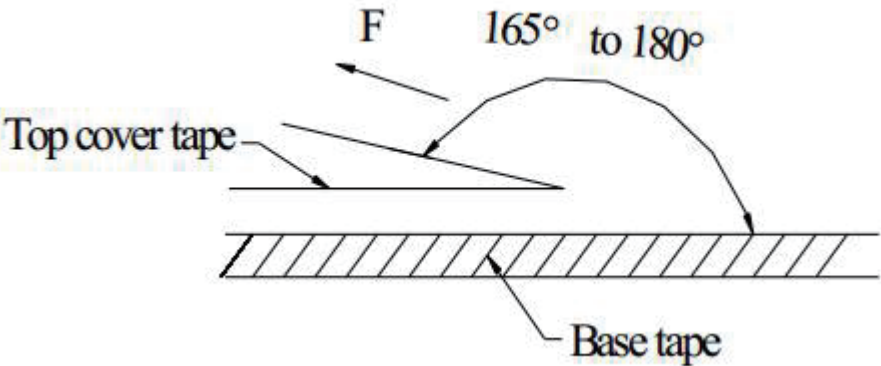
Type	Standard Quantity		
	Reel	Inner box	Carton box
WHYTA0412	3000 pcs / reel	4Reel / box (12000 pcs)	4 Middle boxes, (48,000 pcs)

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	PART NO.: YTA0412系列规格书		SACLE 1:1	REV A0	.xx±0.35	x°±3.0°	CHECKED BY:
	REMARK:		SHEET 6/7		.x±0.30	.x°±2.0°	Elvis.Song
	TEL: +86 400 1048 018	WEB: WWW.WOHU-TEK.COM			.xx±0.25	.xx°±1.5°	DESIGND BY:
					.xxx±0.10	.xxx°±1.0°	Sunny.Xu

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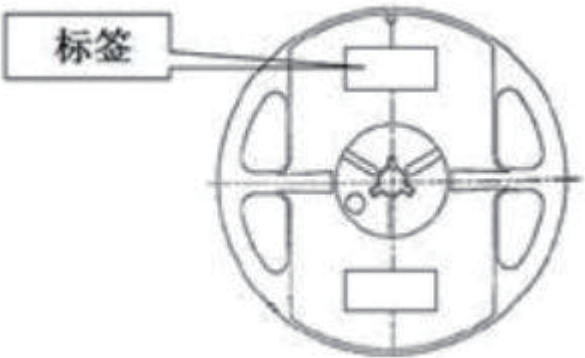
(4) Peel force of top cover tape

The peel speed shall be about 300mm/minute
The peel force of top cover tape shall be between 0.1 to 1.3 N



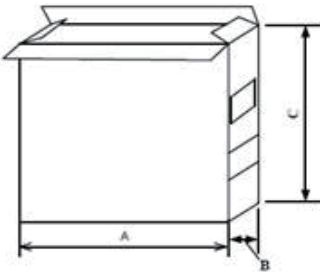
(5) Reel Label

Label on the reel
• Customer's part Number
• Lot Number
• Quantity
• date code



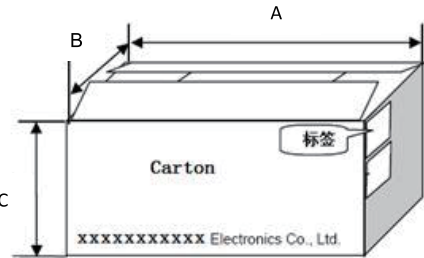
Shipping Label
• Customer's part Number
• Manufacturer's part Number
• Quantity
• date code

(6) Inner Box



Packaging type	A (mm)	B (mm)	C (mm)
Inner box	335	70	340

(7) Carton



Packaging type	A (mm)	B (mm)	C (mm)
type	360	360	360

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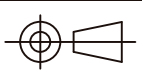
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A4

SACLE
1:1

SHEET
7/7

UNITS
MM[INCH]

REV
A0



GENERAL TOLERANCES
UNLESS SPECIFIED

$x \pm 0.35$
 $.x \pm 0.30$
 $.xx \pm 0.25$
 $.xxx \pm 0.10$

$x^\circ \pm 3.0^\circ$
 $.x^\circ \pm 2.0^\circ$
 $.xx^\circ \pm 1.5^\circ$
 $.xxx^\circ \pm 1.0^\circ$

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