

REACH & RoHS
COMPLIANT

Introduction

- ROHS, Halogen Free and REACH compliance
- High rated current
- 125℃ maximum total temperature operation
- 11.5×10.3×4.0mm maximum surface mount package
- Low core loss
- Ultra low buzz noise due to molding construction

Applications

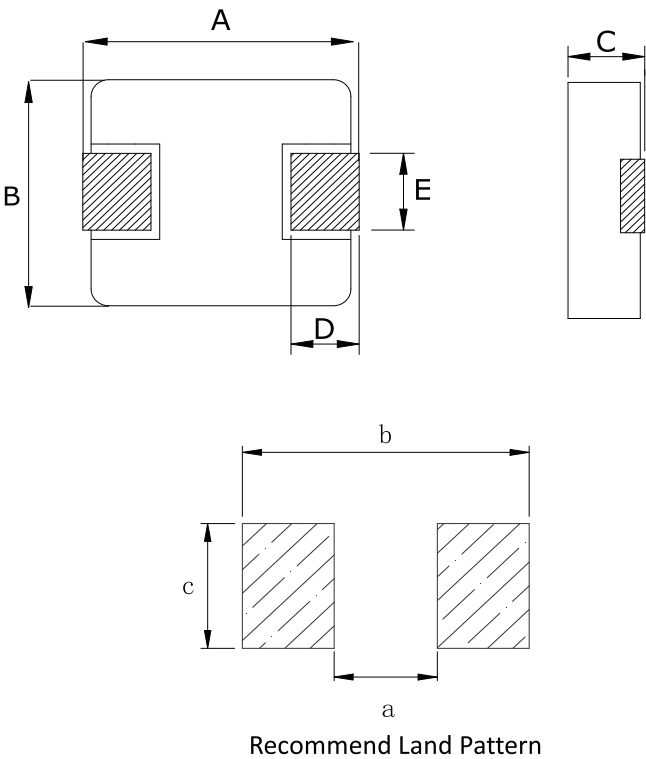
- Laptops and PCs
- Switch and servers
- Base stations
- DC/DC converters
- Battery powered devices
- SSD modules

Product Identification

YT 1040 --1R5 M
① ② ③ ④

- ① YT ----- Series name
- ② 1040 ----- Dimension
- ③ 1R5 ----- Inductance Value (1R5 = 1.5μH)
- ④ M -----Inductance Tolerance (M= ± 20%)

Dimensions-mm



A	B	C	D	E	a typ	b typ	c typ
11.5MAX	10.0±0.3	3.8±0.2	2.0±0.5	3.0±0.5	5.4	13.6	4.1

VOOHU 苏州沃虎电子科技有限公司
Su Zhou Voohu Electronic Tech.Co.Ltd

TEL: +86 400 1048 018

WEB: WWW.WOHU-TEK.COM

TITLE:
YT1040 Series

PART NO.:
YT1040系列规格书1.1

REMARK:

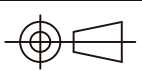
SIZE
A4

SACLE
1:1

SHEET
1/7

UNITS
MM[INCH]

REV
A0



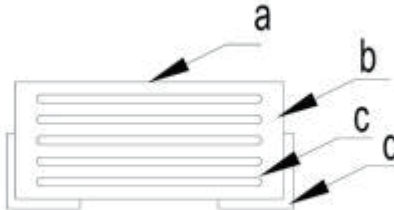
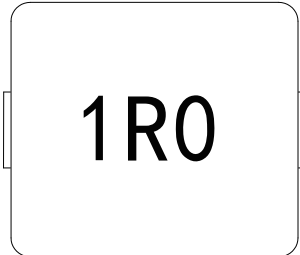
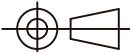
GENERAL TOLERANCES
UNLESS SPECIFIED

x±0.35
.x±0.30
.xx±0.25
.xxx±0.10

APPROVED BY:
Geoffrey.Song

CHECKED BY:
Elvis.Song

DESIGND BY:
Sunny.Xu

1	2	3	4	5	6	7	8																									
REACH & RoHS COMPLIANT																																
Marking		Structure and Components																														
The inductor is marked with a 3-digit code																																
<table><tr><td colspan="2">Nominal Inductance</td></tr><tr><td>Example</td><td>Nominal Value</td></tr><tr><td>1R0</td><td>1.0 μH</td></tr><tr><td>100</td><td>10 μH</td></tr><tr><td>101</td><td>100 μH</td></tr></table>		Nominal Inductance		Example	Nominal Value	1R0	1.0 μH	100	10 μH	101	100 μH	<table><tr><td>Symbol</td><td>Components</td><td>Material</td></tr><tr><td>a</td><td>MARKING</td><td>Ink(black)</td></tr><tr><td>b</td><td>CORE</td><td>Alloy Sponge Powder</td></tr><tr><td>c</td><td>WIRE</td><td>Polyurethane copper wire</td></tr><tr><td>d</td><td>Terminal</td><td>Copper plated with Sn</td></tr></table>				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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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:																									
		PART NO.:	SACLE	REV	UNLESS SPECIFIED		CHECKED BY:																									
TEL: +86 400 1048 018		YT1040 Series	1:1	A0	x±0.35	x°±3.0°	Geoffrey.Song																									
		YT1040系列规格书1.1			.x±0.30	.x°±2.0°	Elvis.Song																									
WEB: WWW.WOHU-TEK.COM		REMARK:	SHEET		.xx±0.25	.xx°±1.5°	DESIGND BY:																									
			2/7		.xxx±0.10	.xxx°±1.0°	Sunny.Xu																									

1		2		3		4		5		6		7		8	
REACH & RoHS COMPLIANT															
Part No.		Inductance		DC Resistance		Saturation Current		Heating Rating Current		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.					
		L0 (μH)		DCR (mΩ)		Isat (A)		Irms (A)							
		±20 %, 100 kHz, 1V		MAX.		TYP.		TYP.							
WHYT1040-R15M		0.15		0.65		75		45							
WHYT1040-R22M		0.22		1		60		35							
WHYT1040-R30M		0.3		1.1		45		35							
WHYT1040-R36M		0.36		1.2		45		30							
WHYT1040-R47M		0.47		1.7		40		30							
WHYT1040-R56M		0.56		1.8		33		25							
WHYT1040-R68M		0.68		2.4		30		23							
WHYT1040-R80M		0.8		2.7		29		23							
WHYT1040-1R0M		1.0		3.3		28		19							
WHYT1040-1R5M		1.5		4.2		24		16							
WHYT1040-2R2M		2.2		7		16.5		12							
WHYT1040-3R3M		3.3		11.8		16		11							
WHYT1040-4R7M		4.7		20		13		9							
WHYT1040-6R8M		6.8		25		12		8.5							
WHYT1040-8R2M		8.2		27		9		8							
WHYT1040-100M		10		30		8.5		7.8							
WHYT1040-150M		15		45		7		6.5							
WHYT1040-220M		22		66		5.5		5							
WHYT1040-330M		33		92		4.8		4.4							
WHYT1040-470M		47		145		3.5		3.3							
WHYT1040-680M		68		195		3		2.5							
WHYT1040-101M		100		340		2.3		2							
VOOHU 苏州沃虎电子科技有限公司 Su Zhou Voohu Electronic Tech.Co.Ltd				TITLE: YT1040 Series			SIZE A4	UNITS MM[INCH]	GENERAL TOLERANCES UNLESS SPECIFIED		APPROVED BY: Geoffrey.Song				
				PART NO.: YT1040系列规格书1.1			SACLE 1:1	REV A0	.xx±0.35	x°±3.0°	CHECKED BY: Elvis.Song				
									.x±0.30	.x°±2.0°					
TEL: +86 400 1048 018		WEB: WWW.WOHU-TEK.COM		REMARK:			SHEET 3/7		.xx±0.25	.xx°±1.5°	DESIGND BY: Sunny.Xu				
									.xxx±0.10	.xxx°±1.0°					
1		2		3		4		5		6		7		8	

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Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	1. No case deformation or change in apperance 2. New solder coverage More than 95%	1.Preheat: 155℃±5℃ , 60S±2S 2.Tin: lead-free. 3.Temperature:240℃±5℃, flux 3.0S±0.5S.
Mechanical shock	1. No case deformation or change in apperance 2. $\Delta L/Lo \leq \pm 10\%$	1. Acceleration: 100G 2. Pulse time: 6ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions
Mechanical vibration	1. No case deformation or change in apperance 2. $\Delta L/Lo \leq \pm 10\%$	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
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.

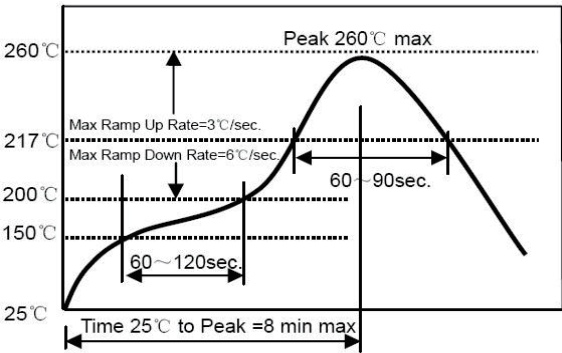
Allowed time above 217℃: 80~120sec.

Max temp: 260℃

Max time at max temp: 10 sec.

Solder paste: Sn/3.0Ag/0.5Cu

Allowed Reflow time: 2x max



(2)Iron Soldering Profile

Iron soldering power: Max. 30W

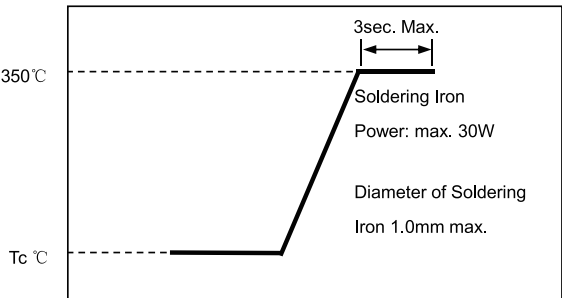
Pre-heating: 150℃/60sec.

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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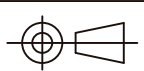
SIZE
A4

SACLE
1:1

SHEET
4/7

UNITS
MM[INCH]

REV
A0



GENERAL TOLERANCES
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$x \pm 0.35$
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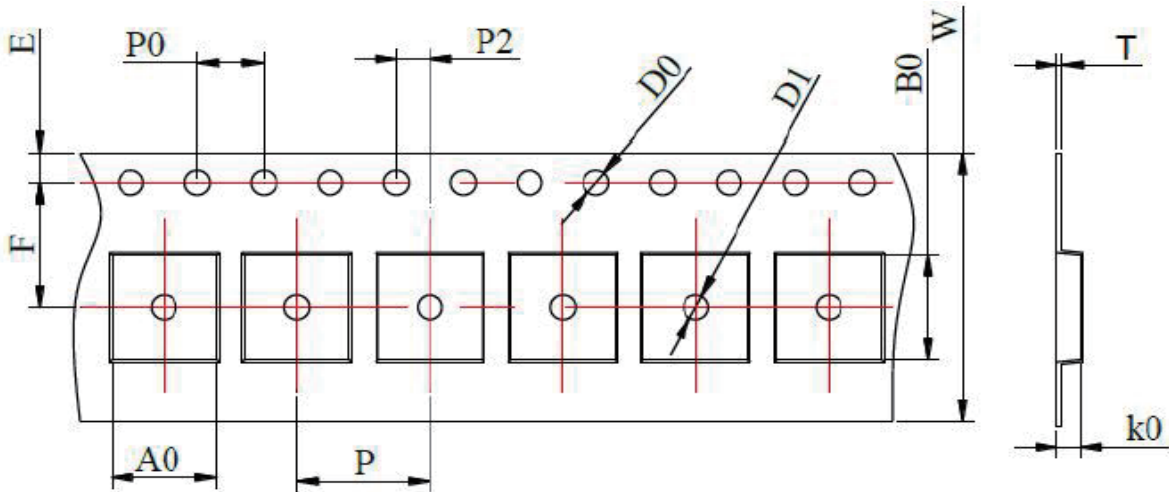
APPROVED BY:
Geoffrey.Song

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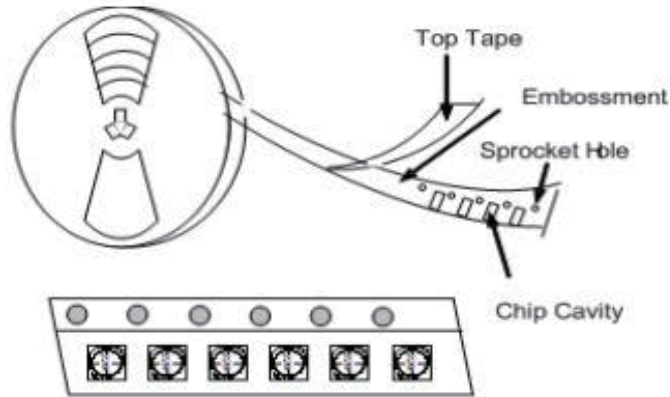
DESIGND BY:
Sunny.Xu

H
Packaging Information

G
(1) Tape Packaging Dimensions (Unit: mm)

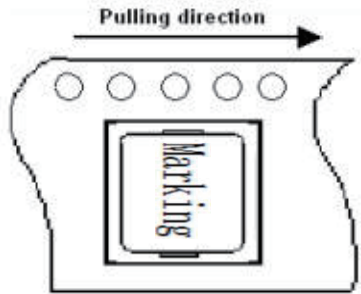


Taping Drawings (UNIT:mm)



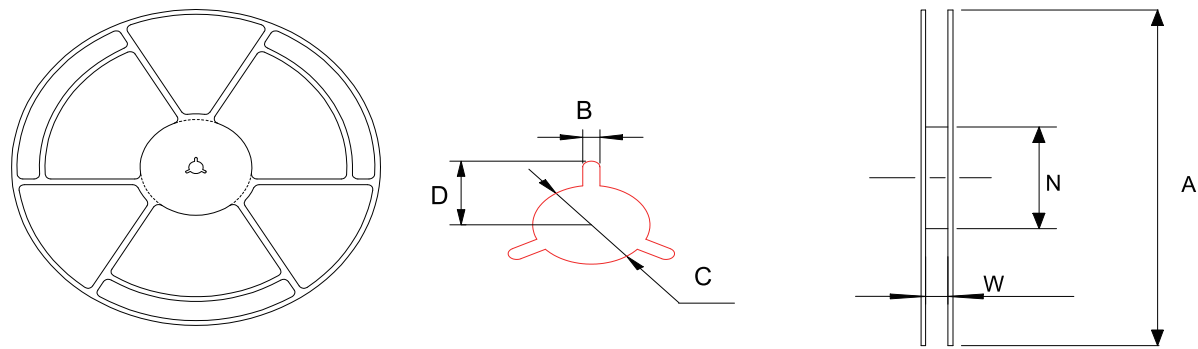
D
C
Table showing the dimensions (mm) for the WHYT1040 tape packaging.

Type	Tape dimensions (mm)											
	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F
WHYT1040	24 ±0.3	16 ±0.1	4 ±0.1	2 ±0.05	1.5 ±0.1	1.5 ±0.1	0.35 ±0.05	10.4 ±0.1	11.6 ±0.1	4.3 ±0.1	1.75 ±0.1	11.5 ±0.1



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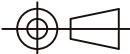
(2) Reel Dimensions (Unit: mm)



A	W	N	B	C	D
330+2.0	24±0.5	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
WHYT1040	500 pcs / reel	2Reel / box (1000 pcs)	4 Middle boxes, (4000 pcs)

 苏州沃虎电子科技有限公司 Su Zhou Voohu Electronic Tech.Co.Ltd		TITLE: YT1040 Series	SIZE A4	UNITS MM[INCH]	GENERAL TOLERANCES UNLESS SPECIFIED		APPROVED BY: Geoffrey.Song
		PART NO.: YT1040系列规格书1.1	SACLE 1:1	REV A0	x±0.35	x°±3.0°	CHECKED BY: Elvis.Song
					.x±0.30	.x°±2.0°	
TEL: +86 400 1048 018	WEB: WWW.WOHU-TEK.COM	REMARK:	SHEET 6/7		.xx±0.25	.xx°±1.5°	DESIGND BY: Sunny.Xu
					.xxx±0.10	.xxx°±1.0°	

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REACH & RoHS
COMPLIANT

H

G

F

E

D

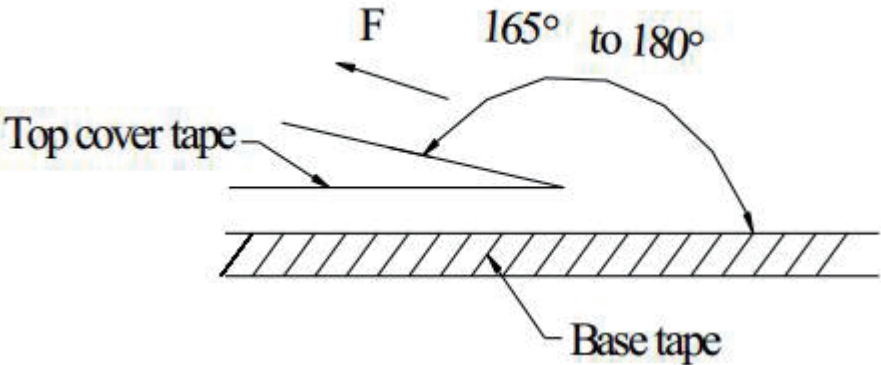
C

B

A

(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



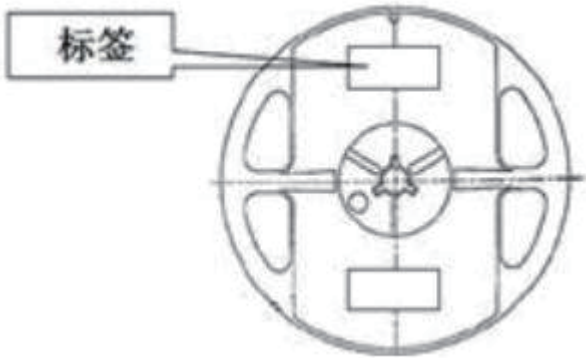
(5) Reel Label

Label on the reel

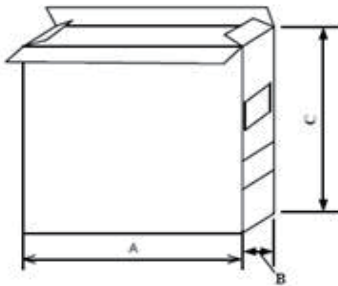
- Customer's part Number
- Lot Number
- Quantity
- date code

Shipping Label

- Customer's part Number
- Manufacturer's part Number
- Quantity
- date code

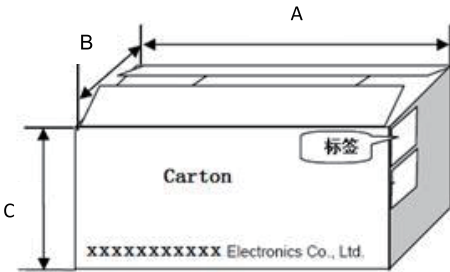


(6) Inner Box



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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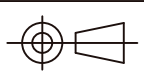
SIZE
A4

SACLE
1:1

SHEET
7/7

UNITS
MM[INCH]

REV
A0



GENERAL TOLERANCES
UNLESS SPECIFIED

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

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

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

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

APPROVED BY:
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