Product Series :	GTCH	Brand :	GOTREND
File Version :	GTCH-SERIES-V1R9	Editor :	Teddy Sun
Established Date :	2012.10.05	Description :	Multilayer Ceramic High-Frequency Inductor
Latest Edit Date :	2020.11.06	Product Type :	☑ Standard

Version Information :

SN	Date	Version Code	Modify Description	Editior
01	2020.11.06	V1R9	New version update release	Teddy Sun
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		<u> </u>		
		<u> </u>		
		<u> </u>		



Product Series : GTCH	Brand : GOTREND
File Version : GTCH-SERIES-V1R9	Editor: Teddy Sun
Established Date : 2012.10.05	Description : Multilayer Ceramic High-Frequency Inductor
Latest Edit Date : 2020.11.06	Product Type: 🗹 Standard 🛛 Customize

- Product information in this catalog is subject to change without notice, and is for reference only. Therefore, please contact GOTREND Technology to check for the latest information before practical application or usage of the products.
- This catalog contains only typical specifications, please contact GOTREND Technology for further details if you can not find special components or information you need in this catalogue. Please also approve our product specifications or transact the approval sheet for product specifications before ordering.
- This catalogue only applies to products purchased through GOTREND Technolgy or its official agencies. This catalogue does not apply to products that are purchased through other third parties.
- Please read Attention and CAUTION note (for storage, operating, rating, soldering, mounting and handling) in this catalog to ensure product proper usage.
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- Products listed in this catalog are intended for general electronic device usage under normal operation and use condition including telecommunication equipment, home appliances, sports equipment AV equipment, industrial machine, office equipment etc. Please take note that our products are not designed, intended or authorized for use in below mentioned applications unless explicitly agreed in writing between the parties to avoid product failure that could result in situation where personal injury or death could occur.
 - (1) Aerospace/Aviation equipment
 - (2) Atomic energy-related equipment
 - (3) Disaster prevention/crime prevention equipment
 - (4) Electric heating apparatus, burning equipment
 - (5) Medical equipment
 - (6) Military equipment
 - (7) Power-generation control equipment
 - (8) Public information-processing equipment
 - (9) Safety equipment
 - (10) Seabed equipment
 - (11) Transportation control equipment
 - (12) Transportation equipment (cars, electric trains, ships, etc.)
 - (13) Other applications that are not considered general-purpose applications
- Our manufacturing sites fully compliance with requirement regarding the quality management system in the automotive industry under the IATF 16949 standard. GOTREND Technology respect individual agreements with reference to customer requirements and customer specific requirements (CSR). We will like to emphasize that only requirements mutually agreed upon will in implemented in our Quality Management System taking into consideration that IATF 16949 may appear to support the acceptance of unilateral requirements. We will only legally bind to this individually agreed upon agreement under the IATF 16949 standard.
- The product itself is a powder metallurgy product, so the structure is relatively fragile, and it should not be used for products that are easy to fall. In addition, when this product is assembled, it should avoid collision with the tool or mechanism shell.
- It is not recommended to use hot air gun for disassembling of this product. When using of hot air gun to repair other parts, please also take note that long time or high temperature exposure of this product will also damage the inductance device.
 If you need to use the hot air gun to disassemble the product, it is recommended to adjust the hot air gun temperature to 380 deg.C±5 deg.C. The blower head of the hot air gun should be perpendicular and at least 1cm away from the product. After heating the product to the tin material melting point, use tweezers to remove the product from the PCB.







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Features & Application :

* High Frequency SRF up to 10GHz

- * Fit for 2.4GHz / 5GHz....etc. RF circuit
- * To help you go pass the CE/FCC standard.
- * Mobile Device / Handheld Device / LowProfile Device / Panel...



(Picture for reference only) Basic Information :

Made in	China
Pin Foot	SMD
Shielding	Yes
J-STD-020	MSL Level 1
RoHS	Compliant
REACH	Compliant
Halogen	Free

Part No. Example :

PN	:	GTCH	1005	Ρ	F	-	1N0	S
ID	:	1	2	3	4		5	6

1	:	GTC : GOTREND Series
2	:	1005 : Diamension code- Length 1.0mm X Width 0.5mm
3	:	P : Pb free < 1000ppm
4	:	F : Material code
5	:	INU:[L] Value - INDUCTANCE INU=1.00H, IUN=100H, B10-100nH
6	:	S : Tolerance Code - S = +/- 0.3 nH, J = 5%, K = 10%

Operating & Storage Condition :

* Operating Temp	-40 ~ +125 deg.C (Including self - temperature rise)
* Storage Temp	110 ~ +45 deg.C , 50 ~ 60% RH (Product with taping)
	240 ~ +125 deg.C (On board)
* Storage Life Time	12 MONTH (Less than 40 deg.C and 60% RH)

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 solderablility: 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 degree before PCBA
- * Caution for human life relative applications : PLS contact & consult with GOTREND team in design stage.

Test Condition :

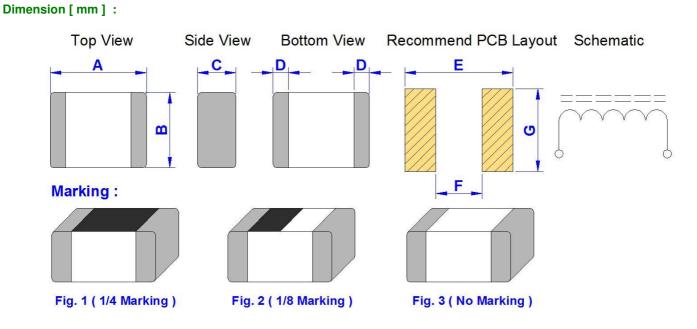
Time : C = 40 ~ 60 Sec. * Equipment HP4284A , HP42841A - L , Q , DCR , IDC HP8753D Network analyzer - SRF В Temp [deg.C] Α Soldering 180 160 * Standard Atmosphere Conditions: С Ambient Temperature 20 ± 15 deg.C 100 60 ~ 90 Sec Humidity RH 65 ± 20% 50 * If there may be any doubt on the test result , Time [Sec.] Measurement shall be made within the following limits: Notice : Iron Soldering , Solder < 30 Watt , Ambient Temperature 25 ± 5 deg.C Direct touch the terminal x 3 Sec. Max. @ 350 deg.C Humidity RH 75 ± 10%

GOTREND Technology Co., Ltd.

Recommend IR Reflow Curve : GTX-IR-FILE001 Lead Free Solder : A = 217 deg.C , B = 245+/-5 deg.C

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GTCH1005PF-SERIES



Size	А	В	С	D	E(Ref.)	F(Ref.)	G(Ref.)
1005 [0402]	1.00+/-0.05	0.50+/-0.05	0.50+/-0.05	0.25+/-0.10	1.50	0.50	0.50

Electrical Characteristics :

Part No.	Inductance (nH) @100MHz	Inductance Tolerance	Q @100MHz Min.	Rated Current (mA) Max.	DCR (Ohm) Max.	S.R.F (MHz) Min.
GTCH1005PF-1N0	1.0	S	8.0	300	0.08	10000
GTCH1005PF-1N2	1.2	S	8.0	300	0.09	10000
GTCH1005PF-1N5	1.5	S	8.0	300	0.10	6000
GTCH1005PF-1N8	1.8	S	8.0	300	0.12	6000
GTCH1005PF-2N0	2.0	S	8.0	300	0.12	6000
GTCH1005PF-2N2	2.2	S	8.0	300	0.13	6000
GTCH1005PF-2N4	2.4	S	8.0	300	0.13	6000
GTCH1005PF-2N7	2.7	S	8.0	300	0.13	6000
GTCH1005PF-3N0	3.0	S	8.0	300	0.16	6000
GTCH1005PF-3N3 🗌	3.3	S	8.0	300	0.16	6000
GTCH1005PF-3N6	3.6	S	8.0	300	0.20	5000
GTCH1005PF-3N9 🗌	3.9	S	8.0	300	0.21	4000
GTCH1005PF-4N3 🗌	4.3	S	8.0	300	0.20	4000
GTCH1005PF-4N7	4.7	S	8.0	300	0.21	4000
GTCH1005PF-5N1	5.1	S	8.0	300	0.21	4000
GTCH1005PF-5N6	5.6	S	8.0	300	0.23	4000
GTCH1005PF-6N2	6.2	S	8.0	300	0.25	3900
GTCH1005PF-6N8	6.8	J , K	8.0	300	0.25	3900
GTCH1005PF-7N5	7.5	J , K	8.0	300	0.25	3700
GTCH1005PF-8N2	8.2	J , K	8.0	300	0.28	3600

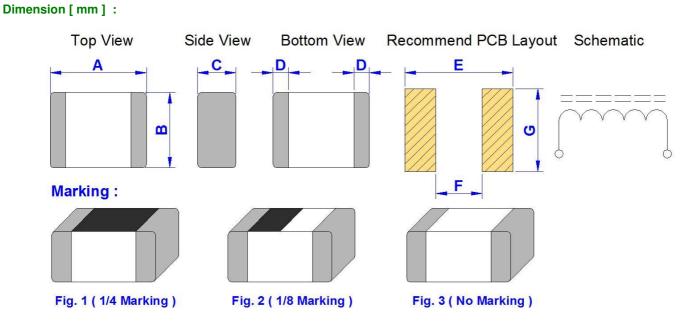
* Inductance tolerance : S = \pm 0.3 nH ; J = \pm 5% ; K = \pm 10%

* Rated Current based on increasing product temperature : Current when temperature of the product reaches +40 deg.C .

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Latest Edit Date :	2020.11.06	Product Type :	☑ Standard □ Customize

GTCH1005PF-SERIES



Size	А	В	С	D	E(Ref.)	F(Ref.)	G(Ref.)
1005 [0402]	1.00+/-0.05	0.50+/-0.05	0.50+/-0.05	0.25+/-0.10	1.50	0.50	0.50

Electrical Characteristics :

Part No.	Inductance (nH) @100MHz	Inductance Tolerance	Q @100MHz Min.	Rated Current (mA) Max.	DCR (Ohm) Max.	S.R.F (MHz) Min.
GTCH1005PF-9N1	9.1	J , K	8.0	300	0.30	3400
GTCH1005PF-10N	10.0	J , K	8.0	300	0.31	3200
GTCH1005PF-12N	12.0	J , K	8.0	300	0.40	2700
GTCH1005PF-15N	15.0	J , K	8.0	300	0.46	2300
GTCH1005PF-18N	18.0	J , K	8.0	300	0.55	2100
GTCH1005PF-22N	22.0	J , K	8.0	300	0.60	1900
GTCH1005PF-27N	27.0	J , K	8.0	300	0.70	1600
GTCH1005PF-33N	33.0	J , K	8.0	200	0.80	1300

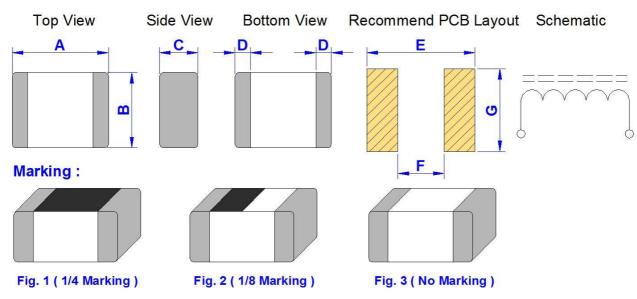
* Inductance tolerance : J = $\pm\,5\%$; K = $\pm\,10\%$

* Rated Current based on increasing product temperature : Current when temperature of the product reaches +40 deg.C .



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GTCH1608PF-SERIES



Size	А	В	С	D	E(Ref.)	F(Ref.)	G(Ref.)
1608 [0603]	1.60+/-0.15	0.80+/-0.15	0.80+/-0.15	0.30+/-0.20	2.60	0.60	0.80

Electrical Characteristics :

Part No.	Inductance (nH) @100MHz	Inductance Tolerance	Q Min.	L,Q Test Freq. (MHz)	Rated Current(mA) Max.	DCR (Ohm) Max.	S.R.F (MHz) Min.
GTCH1608PF-1N0	1.0	S	8.0	100	300	0.05	10000
GTCH1608PF-1N2	1.2	S	8.0	100	300	0.05	10000
GTCH1608PF-1N5	1.5	S	8.0	100	500	0.10	10000
GTCH1608PF-1N8	1.8	S	8.0	100	300	0.10	6000
GTCH1608PF-2N2	2.2	S	8.0	100	300	0.10	6000
GTCH1608PF-2N7	2.7	S	10.0	100	300	0.10	6000
GTCH1608PF-3N3	3.3	J, K	10.0	100	300	0.12	6000
GTCH1608PF-3N9	3.9	J , K	10.0	100	300	0.14	6000
GTCH1608PF-4N7	4.7	J, K	10.0	100	300	0.16	4000
GTCH1608PF-5N6	5.6	J, K	10.0	100	300	0.18	4000
GTCH1608PF-6N8	6.8	J, K	10.0	100	300	0.22	4000
GTCH1608PF-8N2	8.2	J, K	10.0	100	300	0.24	3500
GTCH1608PF-10N	10.0	J, K	12.0	100	300	0.26	3400
GTCH1608PF-12N	12.0	J, K	12.0	100	300	0.30	2600
GTCH1608PF-15N	15.0	J, K	12.0	100	300	0.32	2300
GTCH1608PF-18N	18.0	J, K	12.0	100	300	0.35	2000
GTCH1608PF-22N	22.0	J, K	12.0	100	300	0.40	1600
GTCH1608PF-27N	27.0	J,K	12.0	100	300	0.45	1400
GTCH1608PF-33N	33.0	J,K	12.0	100	300	0.55	1200
GTCH1608PF-39N	39.0	J,K	12.0	100	300	0.60	1100

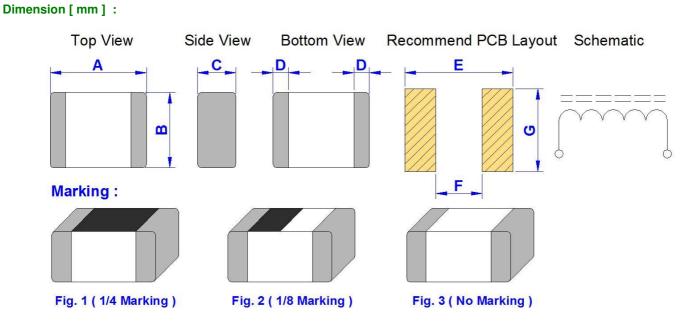
* Inductance tolerance : S = \pm 0.3 nH ; J = \pm 5% ; K = \pm 10%

* Rated Current based on increasing product temperature : Current when temperature of the product reaches +40 deg.C .

Dimension [mm] :

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GTCH1608PF-SERIES



Size	А	В	С	D	E(Ref.)	F(Ref.)	G(Ref.)
1608 [0603]	1.60+/-0.15	0.80+/-0.15	0.80+/-0.15	0.30+/-0.20	2.60	0.60	0.80

Electrical Characteristics :

Part No.	Inductance (nH) @100MHz	Inductance Tolerance	Q Min.	L,Q Test Freq. (MHz)	Rated Current(mA) Max.	DCR (Ohm) Max.	S.R.F (MHz) Min.
GTCH1608PF-47N	47.0	J, K	12.0	100	300	0.70	900
GTCH1608PF-56N	56.0	J , K	12.0	100	300	0.75	900
GTCH1608PF-68N	68.0	J, K	12.0	100	300	0.85	700
GTCH1608PF-82N	82.0	J , K	12.0	100	300	0.95	600
GTCH1608PF-R10	100.0	J, K	12.0	100	300	1.00	600
GTCH1608PF-R12	120.0	J,K	8.0	50	300	1.30	500
GTCH1608PF-R15	150.0	J, K	8.0	50	300	1.50	500
GTCH1608PF-R18	180.0	J, K	8.0	50	300	1.80	400
GTCH1608PF-R22	220.0	J, K	8.0	50	300	2.10	400
GTCH1608PF-R27	270.0	J, K	8.0	50	300	2.40	350
GTCH1608PF-R33	330.0	J , K	8.0	50	300	3.00	350
GTCH1608PF-R39	390.0	J , K	8.0	50	150	3.00	350
GTCH1608PF-R47	470.0	J,K	8.0	50	150	3.60	250

* Inductance tolerance : $J = \pm 5\%$; $K = \pm 10\%$

* Rated Current based on increasing product temperature : Current when temperature of the product reaches +40 deg.C .



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Care note :

Care note for Use :

(1) Storage Condition :

Temperature 25 to 35 deg.C , Humidity 45 to 60% RH

(2) Use Temperature :

a. Minimum Temperature : -40 deg.C Ambient temperature of this product.

- b. Maximum Temperature : +125 deg.C The value of temperature including ambient and temperature rise of this product.
- c. Reliability test temperature range from -40 \sim +125 deg.C
- 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 our company immediately once under such circumstances because product reliability confirmation etc. is needed when this product come in contact with these chemicals.



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Reliability :

SN	Test Item		Test Condition		Specification
1	Dimension	Actual Size			Meet Spec
2	Thermal Shock (Temperature Cycle)	Temperature : -4 Cycle : 100 Cycl	10 ~ +125 deg.C kept stab es (power off)	ilized for 30 min. each	Elec. no variation Appearance no deformation
3	Humidity Resistance	Humidity : 90% ~ Temperature : 6	~ 95% RH 0 ± 2 deg.C,Test Time:9	96 ± 2 Hours	Elec. no variation Appearance no deformation
4	HighTemperature	Temperature : 12 Testing Time : 9			Elec. no variation Appearance no deformation
5	Low Temperature	Temperature : -4 Time : 96 ± 2 Ho			Elec. no variation Appearance no deformation
6	Temperature and Humidity Cycle	Temperature 25 deg.C 55 deg.C	Humidity 90% ~ 95% RH 95% ~ 96% RH	Time 3.0 Hr 5.0 Hr	Elec. no variation Appearance no deformation
0		25 deg.C Cycle : 20 Cycle	90% ~ 95% RH	3.0 Hr	-
7	Vibration		z ~ 55Hz,Amplitude:1.5 ,Z,Time:2 Hours each		Elec. no variation Appearance no deformation
8	Solderability	The profile like o Preheat : 160 ± 1 Peak : 245 ± 5 d	SMT IR-Reflow ur suggest profile. 10 deg.C (90 sec) eg.C Sec. / up 217 deg.C	Elec. no variation Appearance no deformation	
9	Soldering Heat Resistance	Solder : Sn / Ag	10 deg.C(90 sec) / Cu(Pb Free) 260 ± 5 deg.C,Time:3 ±	Elec. no variation Appearance no deformation	
10	Iron Solder Heat Resistance	Solder Temp. : 3 Flux : Rosin,Ti	50 ± 5 deg.C me : 3 ± 1 seconds		Elec. no variation Appearance no deformation
11	Bending Strength	Unit : mm	10 x 10).5	Elec. no variation Appearance no deformation
12	Flexure Strength	Unit : mm 1.6	10 x 20 4.5 4.5 Solder cream 0.15 mm	Elec. no variation Appearance no deformation	
13	Terminal Strength	Mount on Solder Cre	X - Push 1 direction eam 0.15 mm Y	Elec. no variation Appearance no deformation	
14	High-Voltage	100 V DC betwe	en core & winding		Elec. no variation Appearance no deformation
15	Load life	Temperature : 2 Load : Allowed D	5 ± 3 deg.C)C Current [,] Test Time : 9	6 ± 2 Hours	Elec. no variation Appearance no deformation

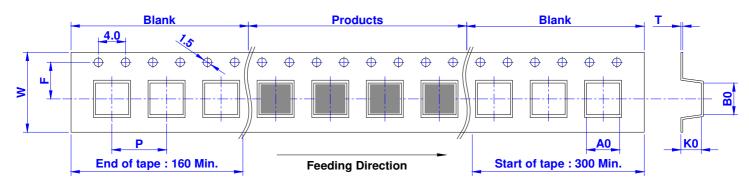


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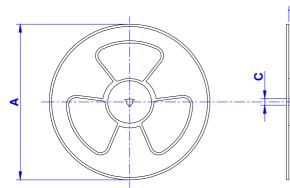
Packaging Information :

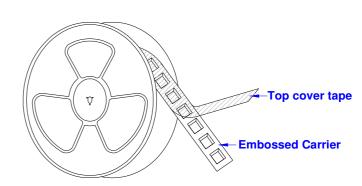
Tape Dimension (mm) :



ſ	SIZE/mm	W	Р	A0	B0	K0	Т	F
	1005	8.00	2.00	0.65	1.15	0.80	0.80	3.50
	1608	8.00	4.00	1.05	1.90	1.00	1.00	3.50

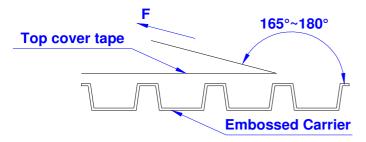
Reel Dimension (mm):





SIZE/mm	Reel Size	A	В	С	D	QTY / Reel
1005	7" x 8 mm	178	60	13	8.5	10000 PCS
1608	7" x 8 mm	178	60	13	8.5	4000 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).

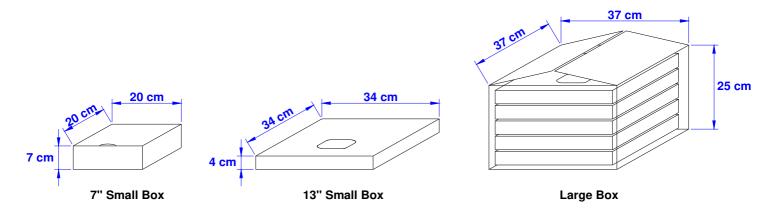
Room Temp.	Room Humidity	Room Atm.	Tearing Speed
(deg.C)	(%)	(hPa)	(mm / min)
5 ~ 35	45 ~ 85	860 ~ 1060	



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Packaging Information :

Box Package :



SIZE/mm	Reels in Small Box	Small Box in Large Box
1005	5	8
1608	5	8



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