

Product Series :	GSTF	Brand :	GOTREND
File Version :	GSTF-SERIES-V1R3	Editor :	Jerry Chen
Established Date :	2018.10.01	Description :	High Current Inductor
Latest Edit Date :	2022.07.29	Product Type :	<input type="checkbox"/> Standard <input checked="" type="checkbox"/> Customize

REMINDERS

- ◆ 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.
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- ◆ 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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- ◆ Information and data provided in the brochure can and do vary in different applications, and actual performance may vary over time.
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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 °C ±5° 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 :

- * Good in EMI effect and various custom design
- * Low DCR and high current ratings.
- * Minimize electromagnetic interference
- * To help you go pass the CE/FCC standard.
- * MainBoard / NB / IPC / Server / VRM module...etc.



(Picture for reference only)

Part No. Example :

PN	:	GSTF	2814	P	[]	-	220	K
-----		-----	-----	---	-----		----	---
ID	:	1	2	3	4		5	6
1	:	GOTREND Series : GSTF						
2	:	Type Size Code : 2814 = 28.0 x 14.3 mm						
3	:	Pb free Code : P = Pb free < 1000 ppm						
4	:	Electrical Code : [L] = High Current , [L] = Low DCR						
5	:	Inductance Value : [220] = 22.0 uH						
6	:	Tolerance : [K] = +/-10%						

Basic Information :

- Made in** China
- Pin Foot** SMD
- Shielding** NO
- J-STD-020** MSL Level 1
- RoHS** Compliant
- REACH** Compliant
- Halogen** Free

Operating & Storage Condition :

- * Operating Temp -40 ~ +125 ° C (Including self - temperature rise)
- * Storage Temp -10 ~ +45 ° C , 50 ~ 60% RH (Product with taping) ; -40 ~ +85 ° C (On board)
- * Storage Life Time 6 Month (Less than 40 ° C and 60% RH)

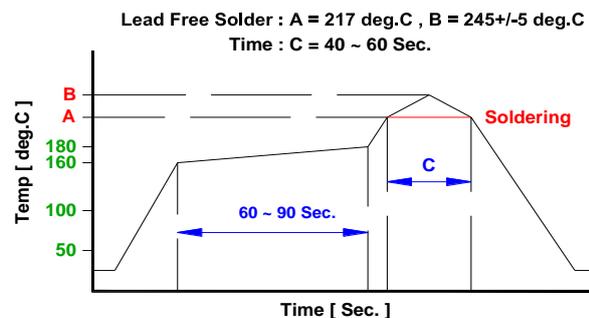
Attention & Caution :

- * Keep out of Splashing water or salt water
- * Avoid Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
- * Avoid Vibrations or shocks which exceed the specified condition
- * Avoid Dew condense
- * Avoid Layout near the edge of PCB
- * Avoid Over flexure after SMT mounting & PCBA
- * Pin foot or SMD pad solderability: 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 :

- * Equipment WK3260B , WK3265B - L , Q , DCR , IDC
KEISIGHT E5061B Network analyzer - SRF
TH9301A HI-POT TEST - AC , DC
TH2511 - DCR
- * Standard Atmosphere Conditions:
Ambient Temperature 20 ± 15 ° C
Humidity RH 65 ± 20%
- * If there may be any doubt on the test result ,
Measurement shall be made within the following limits:
Ambient Temperature 25 ± 5 ° C
Humidity RH 75 ± 10%

Recommend IR Reflow Curve : GTX-IR-FILE001



Notice : Iron Soldering , Solder < 30 Watt ,
Direct touch the terminal x 3 Sec. Max. @ 350 deg.C

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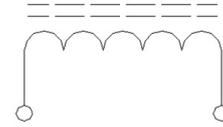
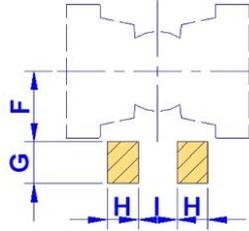
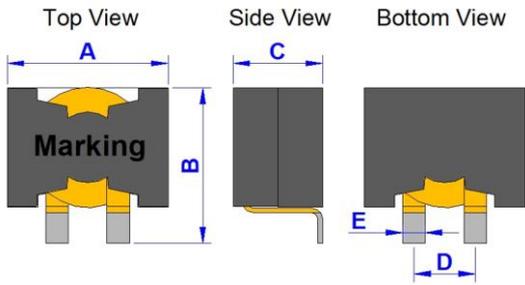
GSTF2814PH-SERIES

Dimension [mm] :

PCB Layout Ref. [mm] :

Schematic:

The Turns & Shapes are just for reference
Real Specs are follow sample approve.



Dimension	Unit : mm			
A (Max.)	B (Max.)	C (Max.)	D(+/-0.5)	E(+/-0.5)
28.0	28.0	14.30	10.1	4.0
F(Ref.)	G(Ref.)	H(Ref.)	I(Ref.)	
11.56	5.59	5.33	4.84	

Electrical Characteristics :

Part No.	Inductance (uH) (+/-10%)	DCR (m Ohm) (Max.)	Isat 1 (A) (Typ.)	Isat 2 (A) (Typ.)	Isat 3 (A) (Typ.)	Irms 1 (A) (Typ.)	Irms 2 (A) (Typ.)	SRF (MHz) (Typ.)
GSTF2814PH-2R2K	2.2	2.01	100.0	>100	>100	20.0	30.0	40.0
GSTF2814PH-3R3K	3.3	2.01	62.0	66.9	68.4	20.0	30.0	30.0
GSTF2814PH-4R7K	4.7	2.01	42.0	48.0	50.1	20.0	30.0	25.0
GSTF2814PH-6R8K	6.8	2.01	30.0	34.5	36.2	20.0	30.0	20.0
GSTF2814PH-100K	10.0	2.01	18.0	21.5	23.4	20.0	30.0	15.0
GSTF2814PH-150K	15.0	2.01	11.5	14.0	15.2	20.0	30.0	12.0
GSTF2814PH-220K	22.0	2.01	7.0	8.6	9.6	20.0	30.0	10.0
GSTF2814PH-330K	33.0	2.01	4.0	5.1	5.9	20.0	30.0	8.0

* Test Condition : @500KHz , 0.1Vrms , 25deg.C Ambient

* Isat 1 : DC current (A) that will cause L0 to drop approximately 10%

* Isat 2 : DC current (A) that will cause L0 to drop approximately 20%

* Isat 3 : DC current (A) that will cause L0 to drop approximately 30%

* Irms 1 : Rated Current Loading when temperature rise approximately 20deg.C

* Irms 2 : Rated Current Loading when temperature rise approximately 40deg.C

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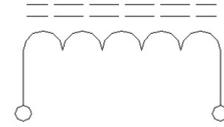
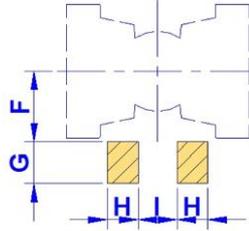
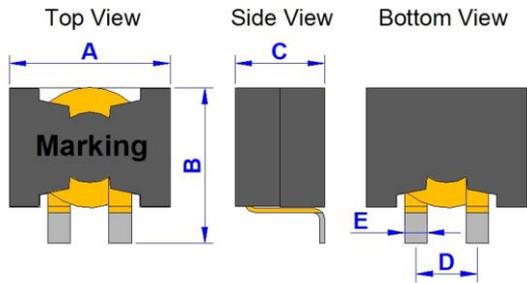
GSTF2818PL-SERIES

Dimension [mm] :

PCB Layout Ref. [mm] :

Schematic:

The Turns & Shapes are just for reference
Real Specs are follow sample approve.



Dimension	Unit : mm			
A (Max.)	B (Max.)	C (Max.)	D(+/-0.5)	E(+/-0.5)
28.0	28.0	18.0	10.4	3.8
F(Ref.)	G(Ref.)	H(Ref.)	I(Ref.)	
11.56	5.59	5.33	5.00	

Electrical Characteristics :

Part No.	Inductance (uH) (+/-10%)	DCR (m Ohm) (Max.)	Isat 1 (A) (Typ.)	Isat 2 (A) (Typ.)	Isat 3 (A) (Typ.)	Irms 1 (A) (Typ.)	Irms 2 (A) (Typ.)	SRF (MHz) (Typ.)
GSTF2818PL-3R3K	3.3	2.86	91.0	92.5	93.6	20.0	28.0	40.0
GSTF2818PL-4R7K	4.7	2.86	59.0	61.2	62.4	20.0	28.0	30.0
GSTF2818PL-6R8K	6.8	2.86	42.0	45.0	45.9	20.0	28.0	25.0
GSTF2818PL-100K	10.0	2.86	28.0	31.2	32.1	20.0	28.0	20.0
GSTF2818PL-150K	15.0	2.86	18.0	21.2	21.9	20.0	28.0	16.0
GSTF2818PL-220K	22.0	2.86	12.0	14.0	15.0	20.0	28.0	15.0
GSTF2818PL-330K	33.0	2.86	7.0	8.7	9.6	20.0	28.0	10.0

* Test Condition : @200KHz , 0.1Vrms , 25deg.C Ambient

* Isat 1 : DC current (A) that will cause L0 to drop approximately 10%

* Isat 2 : DC current (A) that will cause L0 to drop approximately 20%

* Isat 3 : DC current (A) that will cause L0 to drop approximately 30%

* Irms 1 : Rated Current Loading when temperature rise approximately 20deg.C

* Irms 2 : Rated Current Loading when temperature rise approximately 40deg.C

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Care note :

Care note for Use :

(1) 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.

(2) 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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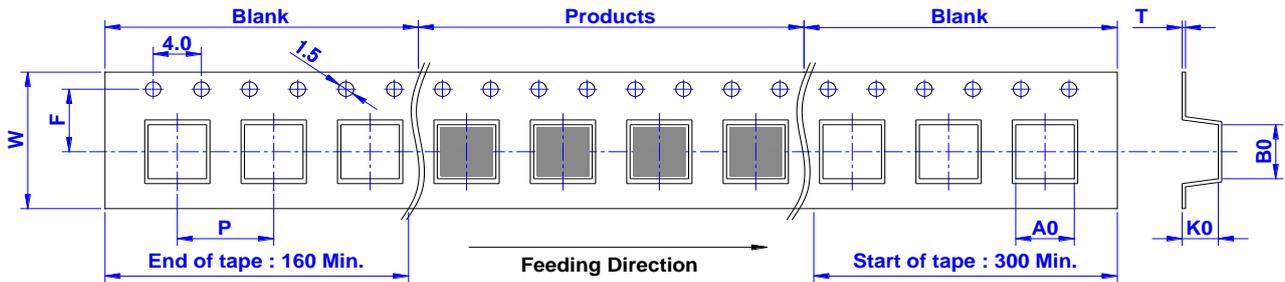
Reliability :

SN	Test Item	Test Condition				Specification	
1	Thermal Shock (Temperature Cycle)	Temperature : -40 ° C ~ +125° C kept stabilized for 30 minutes each Cycle : 100 Cycles.				There must be no deformation or change in dimension. Inductance must not change more than the stated tolerance.	
2	Humidity Resistance	Humidity : 90%~ 95% RH Temperature : 40 ± 2 ° C Test Time : 500 ± 12 Hours				There must be no case deformation or change in dimensions. Inductance must as specification stated.	
3	High Temperature	Temperature : 125 ± 2 ° C Humidity : 20% Test Time : 500 ± 12 Hours				There must be no case deformation or change in dimensions. Inductance must as specification stated.	
4	Low Temperature	Temperature : -40 ± 2 ° C Test Time : 500 ± 12 Hours				There must be no case deformation or change in dimensions. Inductance must as specification stated.	
5	Temperature and Humidity Cycle	Step	Temp	Humidity	Time	There must be no case deformation or change in dimensions. Inductance must as specification stated.	
		1	25 ± 2 ° C	95 ~ 100% RH	3.0Hr		
		2	55 ± 2 ° C	95 ~ 96% RH	9.5Hr		
5	Temperature and Humidity Cycle	3	25 ± 2 ° C	95 ~ 100% RH	9.5Hr	There must be no case deformation or change in dimensions. Inductance must as specification stated.	
		Frequency : 10Hz ~ 50Hz Amplitude : 1.5 mm Direction : X , Y , Z Time : 2 Hours each					Solder inductors on the test PCB.After vibration, there must be no deformation or change in dimension. Inductance must not change more than the stated tolerance.
		6	Vibration				
7	Soldering Heat Resistance	Preheat : 120 ~ 150 ° C (60 sec) Solder : H63A (eutectic solder) Solder Temp. : 260 ± 5 ° C Flux : Rosin Dip time : 10 ± 1 second				The chip must have no cracks.More than 75% of the terminal electrode must be covered with solder. For 96.5 Sn / 3.5 Ag Solder Past: > 217 oC / 90 Seconds. For 63.0 Sn / 37 Pb Solder Past: > 183 oC / 120 Seconds.	

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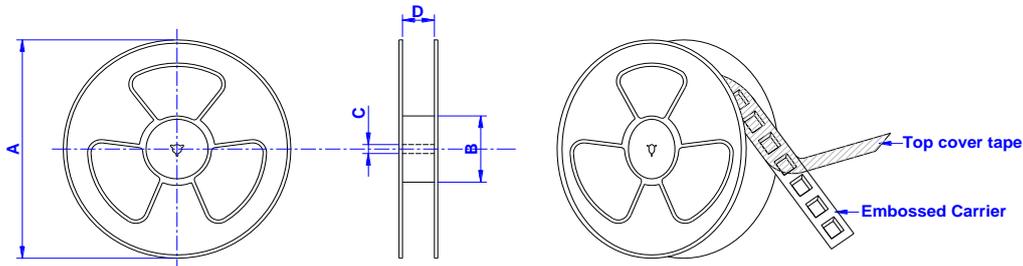
Packaging Information :

Tape Dimension (mm) :



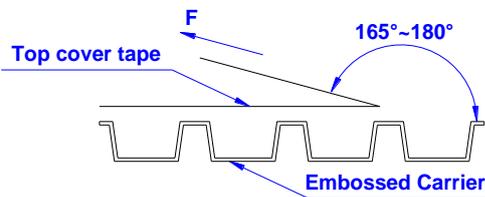
SIZE/mm	W	P	A0	B0	K0	T	F
2814PH	44	32	28.5	28.5	14.8	0.5	20.2
2818PL	44	32	28.5	28.5	18.5	0.5	20.2

Reel Dimension (mm) :



SIZE/mm	Reel Size	A	B	C	D	QTY / Reel
2814PH	13" x 44 mm	330	100	13	44.5	60 PCS
2818PL	13" x 44 mm	330	100	13	44.5	50 PCS

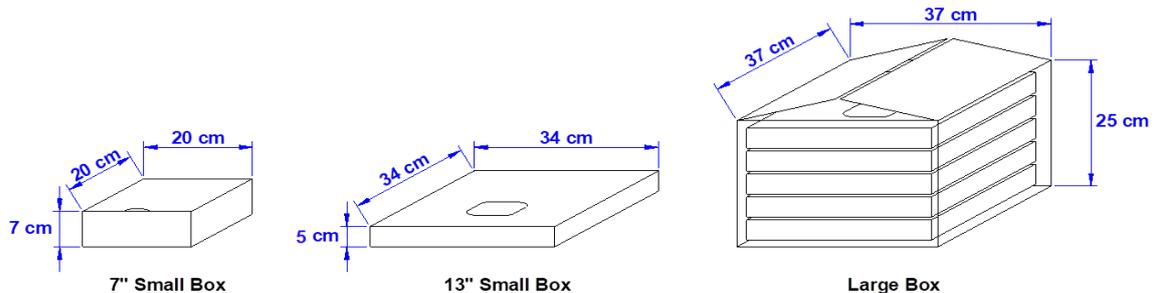
Tearing Off Force :



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

Box Package :



SIZE/mm	Reels in Small Box	Small Box in Large Box
2814PH	1	5
2818PL	1	5