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| Product Series Code: GSDRH4 | Brand: GOTREND |
| File Version: GSDRH4-125P-470M-V1R0 | Editor: Teddy |
| Established Date: 2013/12/16 | Description: Dual Winding,Shielded Inductor / Transformer |
| Latest Edit Date: 2013/12/16 | Pages: 1 / 5 |

Version Information:

| SN | Date | Version Code | Modify Description | Editor |
|----|----------|--------------|--------------------|--------|
| 1 | 13/12/16 | 1R0 | Original build | Teddy |
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Custom-Made Design Specification:

| GOTREND PN | | | | | | | | |
|------------|--|--|--|--|--|--|--|--|
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★ Important Declaration 重要聲明:

Human Life Declaration: If any application in/on human life about device like Aircraft / Medical Equipment ...etc, the approval must be passed by your unique and detail test or evaluation result. GOTREND Tech. only responsible for our items cost and possible rework charge !
 客戶端生命相關之產品應用,如醫療,航太...等直接人命相關之設備,必須根據客戶特別且仔細之測試驗證,確保研發及量產的產品最終品質,高創科技將僅對不良零件本身之價值及相關直接重工的費用負責!

謝謝您的採用,任何問題,請發電郵反映,或來電工程部洽詢!
 Thanks for your patronage,if any question,PLS feel free Email contact or call for service !
<http://www.gotrend.com.tw> E.mail: service@gotrend.com.tw

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*** Features & Application:**

- 1.As a transformer : SPEIC , flyback
- 2.As an inductor : buck , boost , coupled inductor
- 3.DC-DC converters
- 4.VRM inductor for CPU and DDR power supplies
- 5.Input and output filter chokes

*** Product Identify:**

| | | | |
|------------|---------------|--------------|-----------------------|
| Pin Foot | EMI | Color | Made In |
| SMD | Shield | Black | China / Taiwan |

RoHS Compliant – SGS Test Report

| | | | | | |
|--------------------|-----------|-----------|-----------|-----------|-----------|
| Pb | Cd | Hg | Cr+6 | PBB | PBDE |
| <1000ppm | ND | ND | ND | ND | ND |

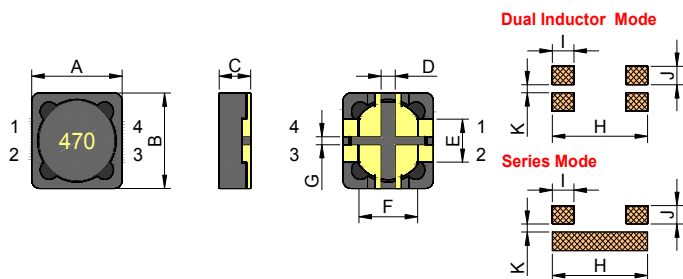
*** Part No. Example:**

| | | | | | | |
|----|--------|-----|---|---|-----|---|
| PN | GSDRH4 | 125 | P | - | 470 | M |
| ID | 1 | 2 | 3 | 4 | 5 | |

- 1 GOTREND Series Code
- 2 Dimension Code : 125 = (L) 12.5 x (W) 12.5 x (H) 6.0 mm
- 3 RoHS Compliant
- 4 Inductance : 470 = 47.0 uH
- 5 Tolerance : M = 20%

*** Dimensions: [mm]**

Base replaceable without notice!



| Size Code | A (Max) | B (Max) | C (Max) | D (Ref.) | E (+/-0.3) | F (+/-0.5) |
|-----------|----------|----------|----------|----------|------------|------------|
| 125 | 12.50 | 12.50 | 6.00 | 2.00 | 4.90 | 7.60 |
| | G (Ref.) | H (Ref.) | I (Ref.) | J (Ref.) | K (Ref.) | |
| | 1.00 | 13.80 | 3.85 | 2.50 | 0.50 | |

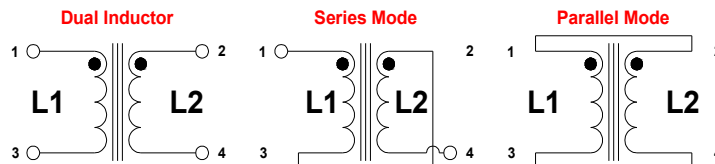
*** Operating & Storage Condition:**

- 1.Storage Condition -40 ~ +125 ° C (range is application specific)
- 2.Storage Life Time 6 Months @ 20 ° C / RH 65% (no seal off)
- 3.Operating Condition -40 ~ +125 ° C (range is application specific)

Attention & Caution:

- * Keep out of splashing water or salt water
- * Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
- * Vibrations or shocks which exceed the specified condition
- * Dew condense
- * Please be careful for the stress to this product by board flexure or something after the mounting.

*** Schematic:**



*** Test Condition:**

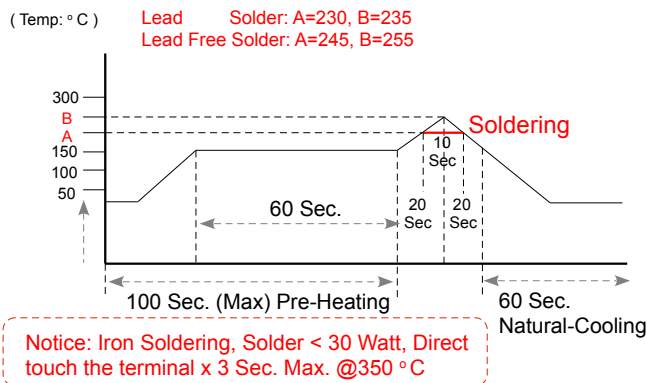
- Equipment**
- 1.L – WK3260 LCR Meter
 - 2.RDC – Twintex TM8089A
 - 3.IDC – WK3260+3265B DC-Bias
 - 4.Dimension - Mitutoyo
 - 5.Temperature – TECPEL 305A


Ambient Temperature 20 ± 5 ° 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**



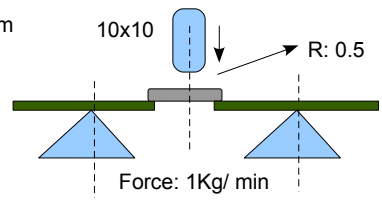
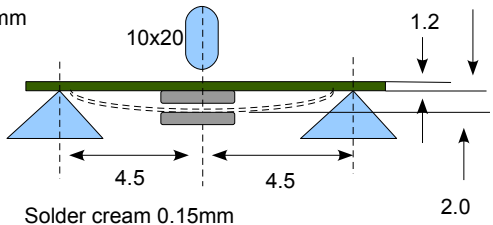
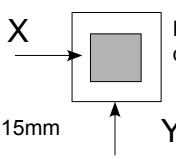
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| GOTREND PN | Rated Inductance (uH) | Parallel Ratings | | | | Series Ratings | | | |
|------------------|-----------------------|------------------|-------------------------|------------------------------|----------------|-----------------|-------------------------|------------------------------|----------------|
| | | OCL +/-20% (uH) | I _{rms} (Amps) | I _{sat} (Amps) Peak | DCR (Ohm) Typ. | OCL +/-20% (uH) | I _{rms} (Amps) | I _{sat} (Amps) Peak | DCR (Ohm) Typ. |
| GSDRH4-125P-470□ | 4.7 | 47.47 | 2.71 | 3.24 | 0.074 | 189.9 | 1.35 | 1.62 | 0.297 |

- Open Circuit Inductance Test Parameters : @ 100KHz / 0.3V
Parallel : (1,2 ~ 4,3) / Series : (1 ~ 4) tie (2 ~ 3)
- RMS current for an approximate ΔT for 40°C without core loss. It is recommended that the temperature of the part not exceed 125°C
- Peak current for approximately 30% roll-off at 20°C
- DCR limits @ 20°C
- Turns Ratio (1 : 3) : (2 : 4) = 1 : 1

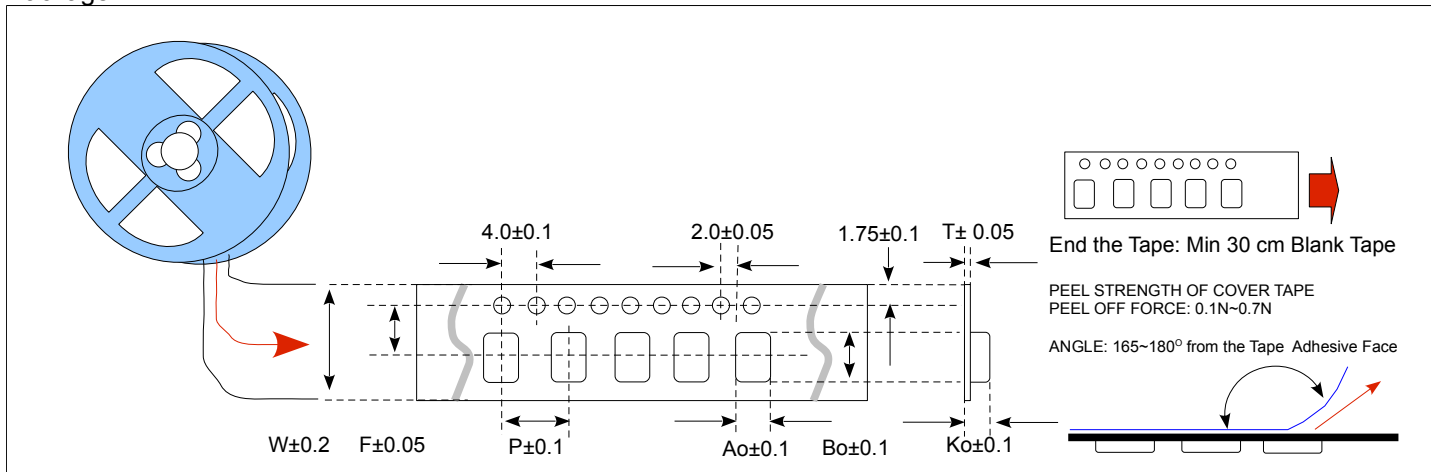
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Reliability:

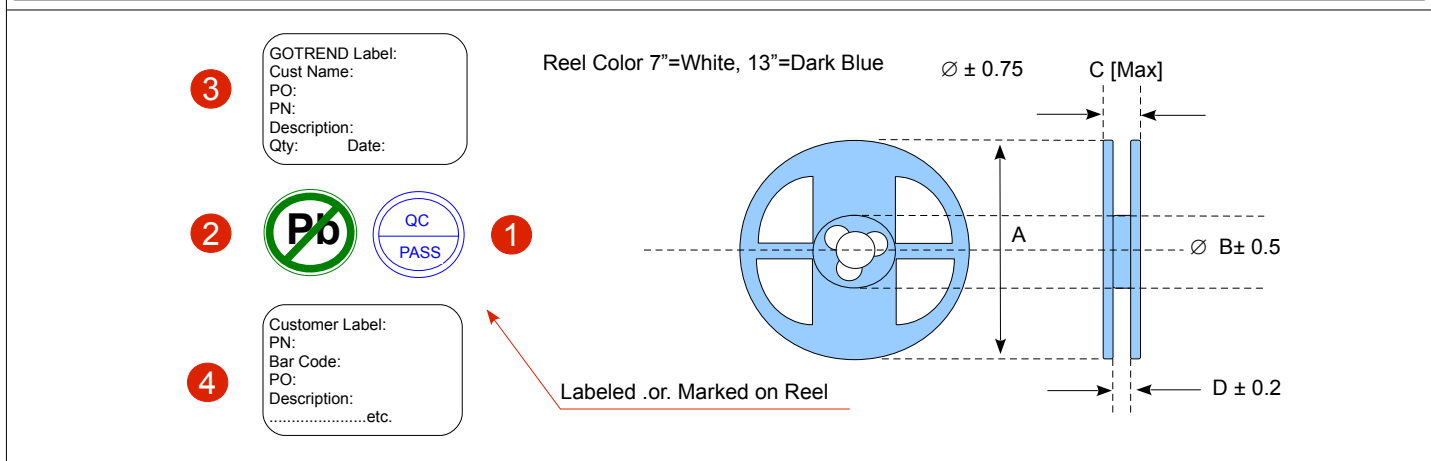
| SN | Test Item | Test Condition | Specification | Sample Qty/pcs | Result |
|----|--|---|--|----------------|--------|
| 1 | Dimension 本體尺寸 | Actual Size ... | Meet Spec | 10 | Pass |
| 2 | Thermal Shock (Temperature Cycle) 溫度衝擊試驗 | Temperature:-40 °C / +125 ° C kept stabilized for 30 minutes each Cycle: 20 Cycles (power off) | Elec. no variation Appearance no deformation | 10 | Pass |
| 3 | Humidity Resistance 耐濕試驗 | Humidity: 90%~ 95% RH Temperature: 40±2 ° C Test Time: 120±2 Hours | Elec. no variation Appearance no deformation | 10 | Pass |
| 4 | High Temperature 耐熱試驗 | Temperature: 125±2 ° C Humidity: 20% Testing Time: 120±2 Hours | Elec. no variation Appearance no deformation | 10 | Pass |
| 5 | Low Temperature 耐寒試驗 | Temperature: -40 ± 2 ° C Time: 120±2 Hours | Elec. no variation Appearance no deformation | 10 | Pass |
| 6 | Temperature and Humidity Cycle 溫濕度衝擊試驗 | Temperature: 125±2 ° C Humidity RH 90~95% Time: 24Hr x 8 Days | Elec. no variation Appearance no deformation | 10 | Pass |
| 7 | Vibration 振動試驗 | Frequency: 10Hz~55Hz Amplitude: 1.5mm Direction: X,Y,Z Time: 2 Hours each | Elec. no variation Appearance no deformation | 10 | Pass |
| 8 | Solderability 吃錫性試驗 | Dip pads in Flux and test by Solder Pot (96.5 Sn/3.5Ag Solder) @ Temperature 255 ± 5 ° C / 5 ± 1 Sec Soldering Area must be cover > 90% | Elec. no variation Appearance no deformation | 10 | Pass |
| 9 | IR Reflow Soldering 迴焊爐回流試驗 | Go through real SMT IR-Reflow.... Temperature Tolerance : (± 5 ° C): IR temperature curve according to GTX-IR-FILE001 Cycles: x 2 | Elec. no variation Appearance no deformation | 10 | Pass |
| 10 | Iron Solder Heat Resistance 手焊耐熱試驗 | Solder Temp.: 350 ± 5 ° C Flux: Rosin Dip time: 5±1 seconds | Elec. no variation Appearance no deformation | 10 | Pass |
| 11 | Bending Strength 折彎力試驗 | Unit: mm  | Elec. no variation Appearance no deformation | 10 | Pass |
| 12 | Flexure Strength 彎曲試驗 | Unit: mm  | Elec. no variation Appearance no deformation | 10 | Pass |
| 13 | Terminal Strength 推 拉力試驗 | Mount on PCB Solder Cream 0.15mm  | Must no crack and damage | 10 | Pass |
| 14 | High-Voltage 高壓電擊試驗 | 100 V DC between core & winding | Elec. no variation Appearance no deformation | 10 | Pass |
| 15 | ORT:on going reliability test 負載電氣試驗 | Base on Spec for approval | Elec. no variation Appearance no deformation | 10 | Pass |

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Package :



| Size / mm | W | P | Ao | Bo | Ko | T | F |
|------------|----|----|------|------|-----|------|------|
| GSDRH4-125 | 24 | 16 | 12.6 | 12.6 | 6.8 | 0.40 | 11.5 |



| Size / mm | A | B | C | D | Reel Size | Qty / Reel |
|------------|-----|-----|------|------|-----------|------------|
| GSDRH4-125 | 330 | 100 | 28.9 | 24.5 | 13" | 500 |

