# 承 認 書

Halogen Free
無鹵品

# Approval Specification

日期DATE: 2016/10/11

客戶Customer：INCOMP

品名Description：FIXED INDUCTOR

產品編號Part NO.：CECLNP-1R8K, CECLNP-5R6K

客戶料號CUST. P/N：

規格圖提出形式( ■ )

■新產品New application

□新產品追加記錄New part(s) added to accepted specification

□規格變更Revision of accepted specification

備 註:

請蓋上確認章後回傳，謝謝。

Please send us the specification with acceptance stamp.

【客戶承認 CUSTOMER STAMP】

| 確認 | 審查 | 製作 |
|---|---|---|
| Joseph | Joseph | Jack |

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## 變更記錄 Variation register

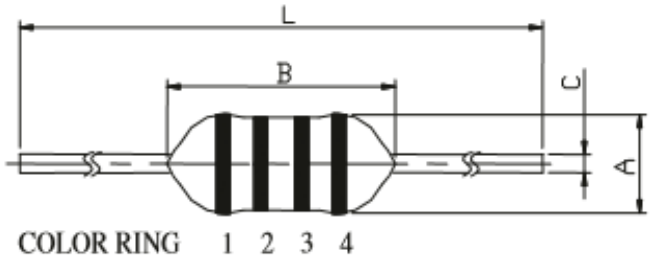
| 版本/版次<br>Edition | 變更理由<br>Reason | 變更內容<br>Content | 變更日期<br>Date |
|---|---|---|---|
| 1/1 | | New application | 2016/10/11 |
| | | | |

# 規 格 書

Halogen Free
無鹵品

客戶Customer：INCOMP
品名Description：FIXED INDUCTOR
產品編號Part NO.：CECLNP-1R8K, CECLNP-5R6K
客戶料號CUST. P/N：

## 1. DIMENSION (UNIT: mm)




| | |
|---|---|
| A | Ø4.0 Max. |
| B | 9.8 Max. |
| C | Ø0.60±0.05 |
| L | 61.0±1.0 |

* THE LENGTH OF THE TERMINAL PINS DOES NOT INCLUDE SOLDER TIP.

## 2. CIRCUIT


## 3. MARKING

| COLOR | FIRST FIGURE 1 | SECOND FIGURE 2 | MULTIPLIER 3 | TOLERANCE 4 |
|---|---|---|---|---|
| BLACK | 0 | 0 | 1 | ± 20% |
| BROWN | 1 | 1 | 10 | - |
| RED | 2 | 2 | 100 | - |
| ORANGE | 3 | 3 | 1000 | - |
| YELLOW | 4 | 4 | - | - |
| GREEN | 5 | 5 | - | - |
| BLUE | 6 | 6 | - | - |
| VIOLET | 7 | 7 | - | - |
| GRAY | 8 | 8 | - | - |
| WHITE | 9 | 9 | - | - |
| GOLD | - | - | 0.1 | ± 5% |
| SILVER | - | - | 0.01 | ± 10% |

## 4. GENERAL CHARACTERISTICS

* STANDARD TESTING CONDITIONS:
UNLESS OTHERWISE SPECIFIED, THE STANDARD RANGE OF ATMOSPHERIC CONDITIONS FOR MEASUREMENTS AND TESTS ARE AS FOLLOWS: AMBIENT TEMPERATURE: 15℃~35℃. RELATIVE HUMIDITY : 25% ~85%. AIR PRESSURE : 86kPa ~106kPa.
IF THERE IS ANY DOUBT ABOUT THE RESULTS, MEASUREMENT SHALL BE MADE WITHIN THE FOLLOWING LIMITS: AMBIENT TEMPERATURE: 20℃±1℃. RELATIVE HUMIDITY : 63% ~67%. AIR PRESSURE : 86kPa ~106kPa.

| No. | ITEMS | | TEST CONDITIONS | SPECIFICATION |
|---|---|---|---|---|
| 1 | OPERATION TEMPERATURE<br><br>STORAGE TEMPERATURE | | | -25 ~ +85℃<br>(INCLUDING COIL TEMPERATURE RISE)<br>-40 ~ +85℃ |
| 2 | LEAD TERMINAL STRENGTH | PULLING | A STATIC PULLING FORCE OF 25N IN A DIRECTION PARALLEL TO THE LEAD TERMINALS FOR 5±1 SECONDS. | NO TERMINAL BREAKAGE OR LOOSENING |
| | | BENDING | LOAD WITH 3.0N AND 90° BENDING AND STRAIGHTENING TWICE IN TWO DIRECTIONS (UPWARD & DOWNWARD) | |
| 3 | DIELECTRIC WITHSTAND VOLTAGE TEST | | D.C.500V APPLIED BETWEEN WINDING-BODY FOR 1 MINUTE. | NO DIELECTRIC DAMAGE |
| 4 | INSULATION RESISTANCE TEST | | D.C.500V APPLIED BETWEEN WINDING-BODY FOR 1 MINUTE. | OVER 100 MΩ |
| 5 | OVER CURRENT TEST | | INPUT 2 TIMES OF RATED INTO THE SAMPLE FOR 5 MINUTES. | NO FIRE OR ANY ABNORMALITY |
| 6 | RESISTANCE TO SOLDERING HEAT TEST | | FIX THE SAMPLES ON A 1.6mm THICKNESS PCB, THEN DIP THE SAMPLE LEADS INTO A SOLDERING BATH OF 260±5℃ UP TO THE PCB FOR 5±1 SECONDS. | NO MECHANICAL BREAKAGE.<br>DEVIATION RELATIVE TO INITIAL VALUE:<br>L: WITHIN ±3.0%<br>Qu: WITHIN ±20% |
| 7 | SOLDER ABILITY TEST | | IMMERSE THE TERMINAL IN FLUX FOR 5 SECONDS. THEN DIP THE TERMINAL INTO A SOLDERING BATH OF 245±5℃ FOR 2±0.5 SECONDS. | OVER 90% OF THE SURFACE BEING IMMERSED SHALL BE COVERED WITH NEW SOLDER UNIFORMLY. |
| 8 | VIBRATION TEST | | AMPLITUDE: 1.5mm P-P<br>FREQUENCY:10～55～10Hz (1 MINUTE PER CYCLE)<br>DURATION: 2 HOURS IN EACH OF X,Y,Z AXIS. (TOTAL 6 HOURS) | DEVIATION RELATIVE TO INITIAL VALUE:<br>L: WITHIN ±1.0%<br>Qu: WITHIN ±20% |
| 9 | SHOCK TEST | | PEAK ACCELERATION: 981m/s$^2$<br>DURATION OF PULSE: 10ms<br>SHOCK TIMES: 3 TIMES IN EACH OF X, Y, Z AXIS. (TOTAL 9 TIMES) | DEVIATION RELATIVE TO INITIAL VALUE:<br>L: WITHIN ±1.0%<br>Qu: WITHIN ±20% |
| 10 | HUMIDITY TEST | | TEMPERATURE: 40℃±2℃<br>HUMIDITY: 90%～95%RH<br>DURATION: 96±4 HOURS. | DEVIATION RELATIVE TO INITIAL VALUE:<br>L: WITHIN ±10%<br>Qu: WITHIN ±20% |
| 11 | DRY HEAT TEST | | TEMPERATURE: 85℃±2℃<br>DURATION: 96±4 HOURS. | |
| 12 | COLD TEST | | TEMPERATURE: -25℃±3℃<br>DURATION: 96±4 HOURS. | |
| 13 | DRY HEAT WITH LOAD | | TEMPERATURE: 85℃±2℃<br>LOAD CONDITION: RATED CURRENT<br>DURATION: 96±4 HOURS. | |
| 14 | DAMP HEAT WITH LOAD | | TEMPERATURE: 40℃±2℃<br>HUMIDITY: 90%～95%RH<br>LOAD CONDITION: RATED CURRENT<br>DURATION: 96±4 HOURS. | |
| 15 | THERMAL SHOCK | | 5 CONTINUOUS CYCLES SHOWN AS BELOW | |

| TEMPERATURE | DURATION |
|---|---|
| -25℃±3℃ | 30 MINUTES |
| 85℃±3℃ | 30 MINUTES |

## 5. ELECTRICAL CHARACTERISTICS

| No. | CUST.P/N | Onlyit P/N | L (μH) | L TOLERANCE | Qu Min. | D.C.R. (Ω) Max. | RATED CURRENT Max. (A) | | S.R.F. (MHz) Min | MEASURING FREQUENCY (MHz) | MATERIAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Idc1 | Idc2 | | | |
| 01 | | CECLNP-1R0□ | 1.0 | M、K | 45 | 0.18 | 3.30 | 0.80 | 93 | 7.96 | EQ5B |
| 02 | | CECLNP-1R2□ | 1.2 | | 50 | 0.20 | 3.14 | 0.73 | 86 | | |
| 03 | | CECLNP-1R5□ | 1.5 | | | 0.22 | 2.95 | 0.70 | 80 | | |
| 04 | | CECLNP-1R8K | 1.8 | | 55 | 0.24 | 2.82 | 0.67 | 75 | | |
| 05 | | CECLNP-2R2□ | 2.2 | | | 0.27 | 2.38 | 0.66 | 70 | | |
| 06 | | CECLNP-2R7□ | 2.7 | | | 0.30 | 2.26 | 0.65 | 67 | | |
| 07 | | CECLNP-3R3□ | 3.3 | | 60 | 0.34 | 2.09 | 0.60 | 63 | | |
| 08 | | CECLNP-3R9□ | 3.9 | | | 0.36 | 1.82 | 0.57 | 43 | | |
| 09 | | CECLNP-4R7□ | 4.7 | | | 0.38 | 1.72 | 0.55 | 37 | | |
| 10 | | CECLNP-5R6K | 5.6 | | | 0.40 | 1.58 | 0.52 | 32 | | |
| 11 | | CECLNP-6R8□ | 6.8 | | | 0.45 | 1.45 | 0.50 | 25 | | |
| 12 | | CECLNP-8R2□ | 8.2 | | | 0.50 | 1.30 | 0.46 | 16 | | |
| 13 | | CECLNP-100□ | 10 | M、K、J | | 0.60 | 1.17 | 0.45 | 14 | | |
| 14 | | CECLNP-120□ | 12 | | 50 | 0.65 | 1.03 | 0.38 | 12 | 2.52 | |
| 15 | | CECLNP-150□ | 15 | | | 0.74 | 0.96 | 0.34 | 11 | | |
| 16 | | CECLNP-180□ | 18 | | | 0.80 | 0.85 | 0.32 | 8.5 | | |
| 17 | | CECLNP-220□ | 22 | | | 0.85 | 0.78 | 0.31 | 6.5 | | |
| 18 | | CECLNP-270□ | 27 | | 45 | 0.95 | 0.70 | 0.29 | 4.8 | | |
| 19 | | CECLNP-330□ | 33 | | | 1.10 | 0.68 | 0.28 | 4.4 | | |
| 20 | | CECLNP-390□ | 39 | | | 1.90 | 0.62 | 0.22 | 4.3 | | |
| 21 | | CECLNP-470□ | 47 | | | 2.10 | 0.55 | 0.21 | 4.2 | | |
| 22 | | CECLNP-560□ | 56 | | 40 | 2.30 | 0.53 | 0.20 | 4.1 | | |
| 23 | | CECLNP-680□ | 68 | | | 2.50 | 0.49 | 0.19 | 3.8 | | |
| 24 | | CECLNP-820□ | 82 | | | 2.70 | 0.45 | 0.18 | 3.5 | | |
| 25 | | CECLNP-101□ | 100 | | | 3.40 | 0.39 | 0.16 | 3.2 | | |
| 26 | | CECLNP-121□ | 120 | | 50 | 4.70 | 0.36 | 0.15 | 2.5 | 0.796 | EL6E |
| 27 | | CECLNP-151□ | 150 | | | 5.00 | 0.35 | 0.13 | 2.3 | | |
| 28 | | CECLNP-181□ | 180 | | | 5.70 | 0.28 | 0.13 | 2.2 | | |
| 29 | | CECLNP-221□ | 220 | | | 6.20 | 0.25 | 0.12 | 2.0 | | |
| 30 | | CECLNP-271□ | 270 | | | 7.10 | 0.24 | 0.12 | 1.8 | | |
| 31 | | CECLNP-331□ | 330 | | | 7.70 | 0.23 | 0.11 | 1.7 | | |

## ELECTRICAL CHARACTERISTICS

| No. | CUST.P/N | Onlyit P/N | L (μH) | L TOLERANCE | Qu Min. | D.C.R. (Ω) Max. | RATED CURRENT Max. (A) | | S.R.F. (MHz) Min | MEASURING FREQUENCY (MHz) | MATERIAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Idc1 | Idc2 | | | |
| 32 | | CECLNP-391□ | 390 | M、K、J | 50 | 10.50 | 0.20 | 0.10 | 1.6 | 0.796 | EL6E |
| 33 | | CECLNP-471□ | 470 | | | 11.90 | 0.19 | 0.09 | 1.5 | | |
| 34 | | CECLNP-561□ | 560 | | | 13.30 | 0.17 | 0.09 | 1.4 | | |
| 35 | | CECLNP-681□ | 680 | | 45 | 15.00 | 0.16 | 0.08 | 1.3 | | |
| 36 | | CECLNP-821□ | 820 | | | 20.00 | 0.15 | 0.06 | 1.2 | | |
| **37** | | **CECLNP-102□** | **1000** | | | **21.00** | **0.12** | **0.06** | **0.90** | | |
| 38 | | CECLNP-122□ | 1200 | | 40 | 32.00 | 0.10 | 0.055 | 0.82 | 0.252 | |
| 39 | | CECLNP-152□ | 1500 | | | 45.00 | 0.087 | 0.045 | 0.76 | | |
| 40 | | CECLNP-182□ | 1800 | | | 50.00 | 0.084 | 0.040 | 0.68 | | |
| 41 | | CECLNP-222□ | 2200 | | 35 | 54.00 | 0.082 | 0.040 | 0.52 | | |
| **42** | | **CECLNP-272□** | **2700** | | | **61.00** | **0.075** | **0.035** | **0.40** | | |
| 43 | | CECLNP-332□ | 3300 | | | 69.00 | 0.068 | 0.035 | 0.28 | | |
| 44 | | CECLNP-392□ | 3900 | | | 74.00 | 0.062 | 0.030 | 0.12 | | |

* : M: ±20% , K: ±10% , J: ±5%

* TESTING INSTRUMENT

INDUCTANCE & Q: HP 4285A OR EQUIVALENT.
D.C.R.: HP 34420A OR EQUIVALENT.
RATED CURRENT: HP 4284A, HP42841A, HP E3632A, HP 34420A OR EQUIVALENT.
S.R.F. : HP 4395A, HP4285A OR EQUIVALENT.

* Idc1: THE CURRENT WHEN THE INDUCTANCE DECREASES TO 90% OF INITIAL VALUE. (Ta=25℃)
* Idc2: THE CURRENT WHEN THE TEMPERATURE OF COIL IS INCREASED BY 20℃. (Ta=25℃)

## 6. REMARK

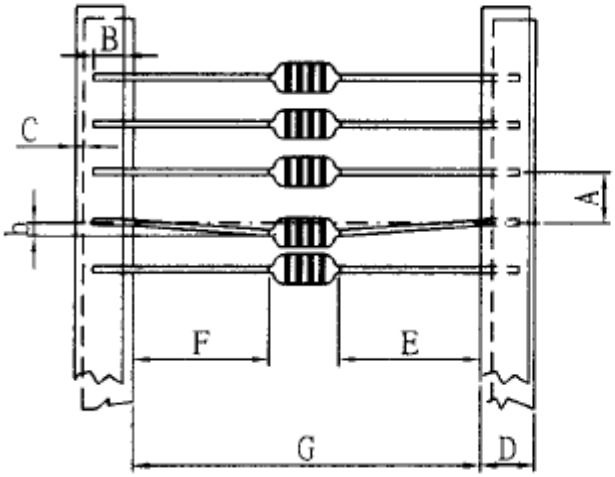
* THE WARNING FOR LEAD WIRE FORMING TO BE ACCORDING TO STD-003.

## 7. RoHS COMPLIANCE REMARKS:

* LEAD WILL BE PRESENT IN THE FERRITE CORE OF THE FRIT MATRIX IN THE COMPONENT. THIS USE, IS EXEMPT FROM RoHS LEGISLATION PER THE ANNEX (ITEM 7), WHICH REFERS TO "LEAD IN ELECTRONIC CERAMIC PART".

# * PACKAGE SPECIFICATION *

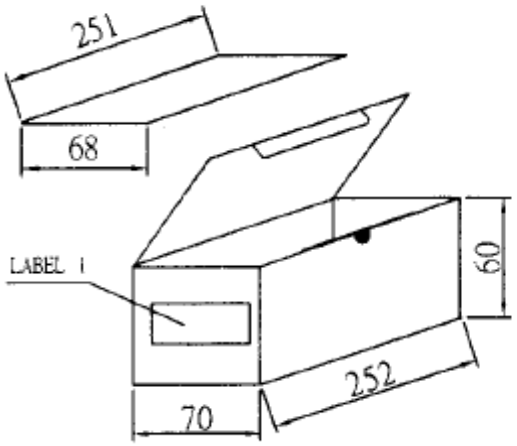
1. Taping Dimensions : (Unit : mm)




A : 5.0±0.5
B : 3.0MIN.
C : 0.8MAX.
D : 6±0.5
IE-F1 : 1.0MAX.
G : $52^{+2}_{-0}$
b : 1.2max.

2. Ammunition Packing

1,000 Pcs/Box

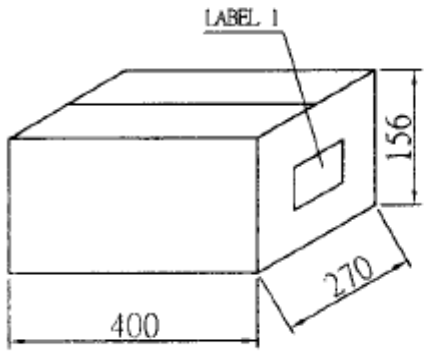



LABEL 1

| ONLYIT CO., LTD. | |
|---|---|
| Customer | |
| Description | |
| Customer Part No. | |
| Onlyit. Part No. | |
| Quantity | |
| Date | |

3. Carton

10 Boxes/Carton Total 10,000 Pcs




*Above dimensions are the outer dimensions of carton.