



德砚电子

DE YAN DIAN ZI

# 一体成型功率电感

## *Data Sheet*

**RoHS**



**ISO 9001**  
质量管理体系认证



**ISO 14001**  
环境管理体系认证

Shenzhen Deyan Electronics Co., Ltd

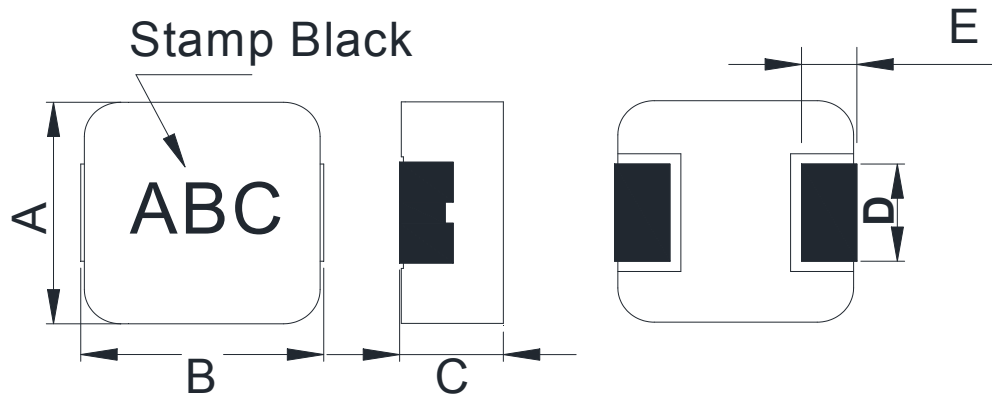
## \*SPECIFICATION\*

|        |      |      | AMENDMENT RECORD |         |         |         |
|--------|------|------|------------------|---------|---------|---------|
| SYMBOL | DATE | PAGE | CONTENTS         | DWN. BY | CHK. BY | APP. BY |
|        |      |      |                  | 叶枫      | 李林      | 谢东      |
|        |      |      |                  |         |         |         |

# \*SPECIFICATION\*

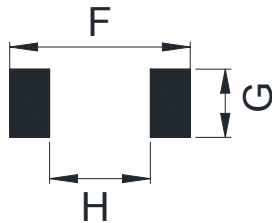
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|          |                | D0630HP-150MT |          | 2024-08-08 | --            | 01   | 1/5     |

## 1. DIMENSIONS (UNIT : mm)



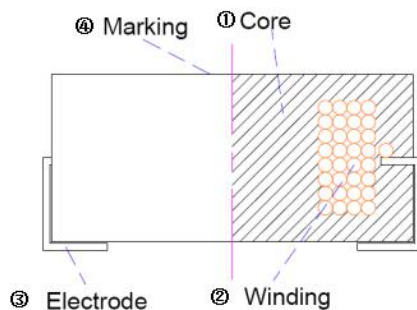
| A       | B        | C       | D        | E        |
|---------|----------|---------|----------|----------|
| 6.6±0.3 | 7.1 ±0.3 | 3.0 MAX | 3.0 ±0.3 | 1.6 ±0.5 |

## 2. RECOMMENDED LAND PATTERN (UNIT: mm)



|   |          |
|---|----------|
| F | 8.4 Ref. |
| G | 3.5 Ref. |
| H | 3.7 Ref. |

## 3. STRUCTURE



| No. | PARTS     | MATERIAL                                          |
|-----|-----------|---------------------------------------------------|
| ①   | CORE      | Alloy powder                                      |
| ②   | WIRE      | Self bonding polyamide-imide enameled Copper Wire |
| ③   | ELECTRODE | Cu                                                |
| ④   | MARKING   | INK                                               |

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## 4.CHARACTERISTICS

| No. | P/N.          | Inductance (μH) | Stamp | D.C.R. (mΩ) Max. | Saturation Current (A) |     | Temperature rise current(ΔT≤40℃) (A). |     |
|-----|---------------|-----------------|-------|------------------|------------------------|-----|---------------------------------------|-----|
|     |               |                 |       |                  | Typ                    | MAX | Typ                                   | MAX |
| 01  | D0630HP-150MT | 15±20%          | 150   | 122              | 5.0                    | 4.0 | 3.0                                   | 2.5 |

\* Testing instrument: Inductance HP 4284A or equivalent at 100KHz /1V..

D.C.R : TH2512B or equivalent. (Ta= 25℃)

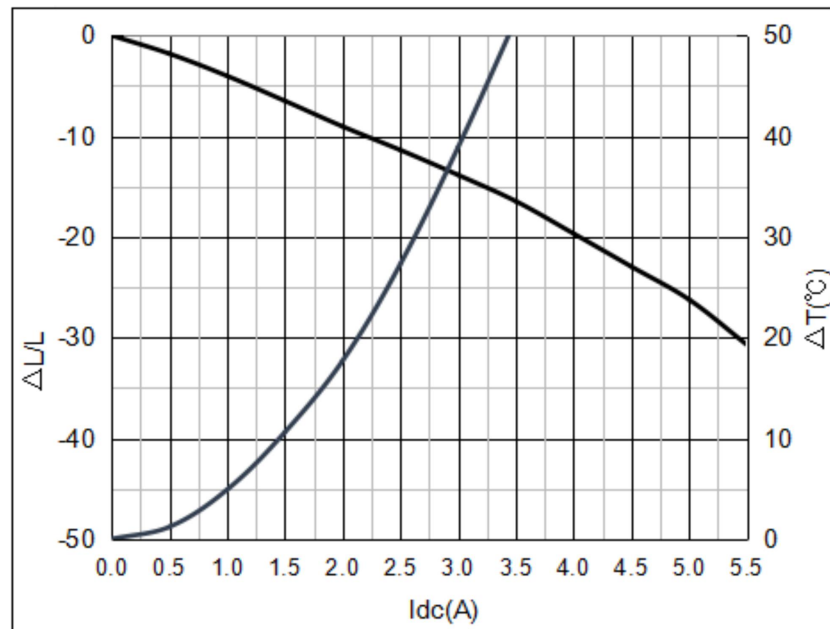
Saturation current: WK 3260B+3265B or equivalent.

\* Saturation current: indicates the current when the inductance decrease to approximately 70% of initial value. (Ta=25℃)

\* The temperature rise current value is the DC current value having temperature increase up to approximately 40℃(Ta=25℃)

\* Absolute maximum voltage 30VDC

150 DC Bias & Temperature Characteristics



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## 5.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.

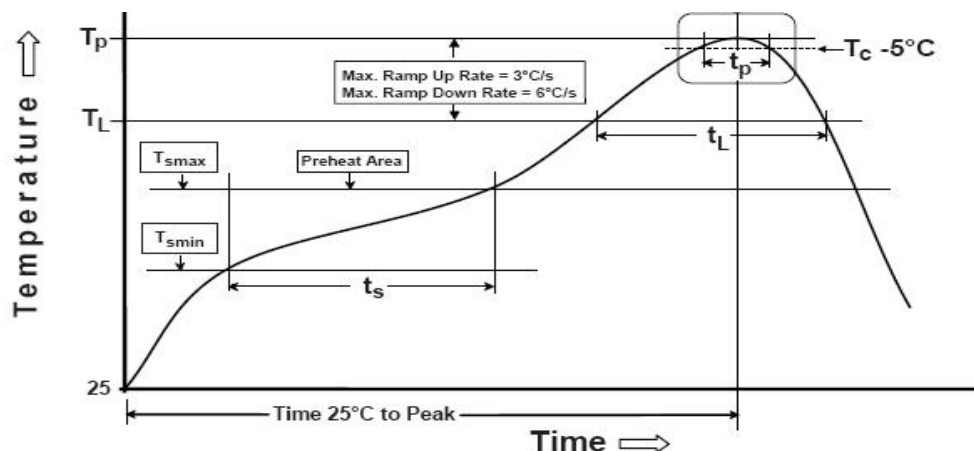
| No. | ITEMS                                            | CONDITIONS                                                                                                                                    | SPECIFICATION                                                                      |
|-----|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 1   | OPERATION TEMPERATURE<br><br>STORAGE TEMPERATURE |                                                                                                                                               | -40 ~ + 125℃<br>(INCLUDING COIL TEMPERATURE RISE)<br>-40 ~ + 125℃                  |
| 2   | TEMPERATURE COEFFICIENT                          | -30 ~ +105℃                                                                                                                                   | 0 ~ 2000 ppm/℃                                                                     |
| 3   | FIXING STRENGTH                                  | SAMPLE IS PUSHED IN THREE DIRECTIONS OF X, Y AND Z WITH FORCE OF 5. 0N FOR 10±5 SECONDS. AFTER SOLDERING BETWEEN COPPER PLATE AND ELECTRODES. | NO ELECTRODE DETACHMENT.                                                           |
| 4   | RESISTANCE TO SOLDERING HEAT TEST                | REFER TO THE SPEC "STD-001NP".                                                                                                                | NO MECHANICAL BREAKAGE.<br>DEVIATION RELATIVE TO INITIAL VALUE:<br>L: WITHIN ±10%  |
| 5   | SOLDERABILITY TEST                               | IMMERSE THE ELECTRODE IN FLUX FOR 5 SECONDS. THEN DIP THE ELECTRODE INTO A SOLDERING BATH OF 245±5℃ FOR 2±0.5 SECONDS.                        | OVER 95% OF THE SURFACE BEING IMMersed SHALL BE COVERED WITH NEW SOLDER UNIFORMLY. |
| 6   | VIBRATION TEST                                   | AMPLITUDE: 1.5mm P-P<br>FREQUENCY:10~55~10Hz (1 MINUTE PER CYCLE)<br>DURATION: 1 HOUR IN EACH OF X, Y, Z AXIS.                                | DEVIATION RELATIVE TO INITIAL VALUE:<br>L: WITHIN ±10%                             |
| 7   | HUMIDITY TEST                                    | TEMPERATURE: 40℃±2℃<br>HUMIDITY: 90%~95%RH<br>DURATION: 96±4 HOURS.                                                                           | DEVIATION RELATIVE TO INITIAL VALUE:<br>L: WITHIN ±10%                             |
| 8   | THERMAL SHOCK TEST                               | 20 CYCLES OF +105℃ FOR 30 MINUTES, -40℃ FOR 30 MINUTES. CHARACTERISTICS ARE MEASURED AFTER THE AMBIENT AIR EXPOSURE OF 1 HOUR                 | DEVIATION RELATIVE TO INITIAL VALUE:<br>L: WITHIN ±10%                             |
| 9   | HIGH TEMPERATURE STORAGE TEST                    | TEMPERATURE: 125℃±2℃<br>DURATION: 96±4 HOURS                                                                                                  |                                                                                    |
| 10  | LOW TEMPERATURE STORAGE TEST                     | TEMPERATURE: -40℃±3℃<br>DURATION: 96±4 HOURS.                                                                                                 |                                                                                    |

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## . Reflow profile for SMT components



Reflow is referred to standard IPC/ JEDEC J-STD-020D

|                                                                                   |                                          |                      |
|-----------------------------------------------------------------------------------|------------------------------------------|----------------------|
| Profile Feature                                                                   |                                          | Lead(Pb) Free solder |
| Preheat and soak                                                                  | ·temperature Min.( $T_{min}$ )           | 150°C                |
|                                                                                   | ·temperature Max.( $T_{max}$ )           | 200°C                |
|                                                                                   | ·time( $T_{min}$ to $T_{max}$ )( $t_s$ ) | 60-120 Seconds       |
| Average ramp up rate $T_{max}$ to $T_p$                                           |                                          | 3°C/Second Max.      |
| Liquidous temperature ( $T_L$ )                                                   |                                          | 217 °C               |
| Time ( $T_L$ ) maintained above $T_L$                                             |                                          | 60-150 seconds       |
| Peak package body temperature ( $T_p$ )                                           |                                          | Table2               |
| Time ( $t_p$ )* within 5 °C of the specified classification temperature ( $T_c$ ) |                                          | 30* seconds          |
| Average Ramp-down rate ( $T_p$ to $T_L$ )                                         |                                          | 6 °C/second max      |
| Time 25 °C to peak temperature                                                    |                                          | 8 minutes max.       |

**Table2. Pb-Free Process - Classification Temperatures ( $T_c$ )**

| Package Thickness | Volume mm <sup>3</sup><br><350 | Volume mm <sup>3</sup><br>350~2000 | Volume mm <sup>3</sup><br>>2000 |
|-------------------|--------------------------------|------------------------------------|---------------------------------|
| <1.6 mm           | 260°C                          | 260°C                              | 260°C                           |
| 1.6mm- 2.5mm      | 260°C                          | 250°C                              | 245°C                           |
| >2.5 mm           | 250°C                          | 245°C                              | 245°C                           |

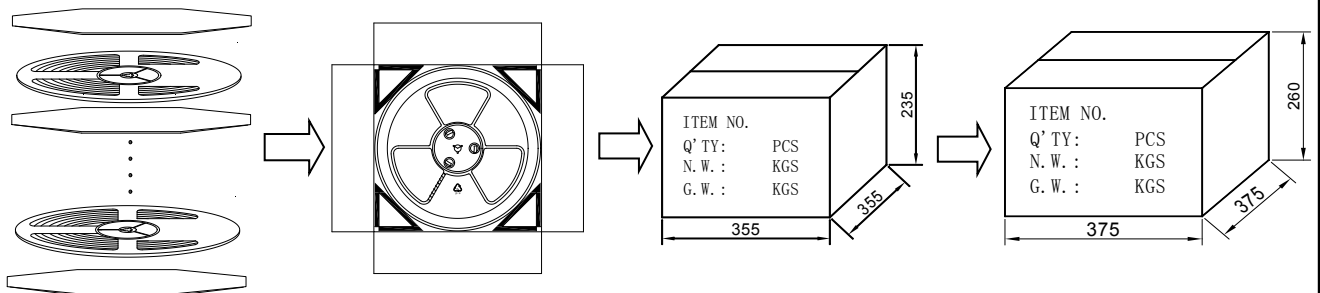
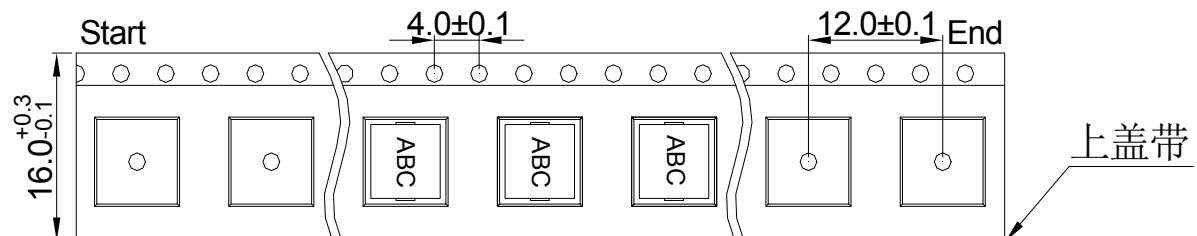
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## 7. PACKING

REFER TO STANDARD PACKING DRAWING. 1000PCS/R



|      |         |
|------|---------|
| REEL | 1000PCS |
| BOX  | 8000PCS |

## 8. NOTE

SOLDERING TIN PERIOD OF VALIDITY: SIX MONTHS  
 STORAGE TEMPERATURE:  $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$   
 COMPARATIVELY HUMIDITY: 35%--70%

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