

0002

CUSTOMER \_\_\_\_\_

CUSTOMER'S P/N \_\_\_\_\_

DESCRIPTION \_\_\_\_\_ POWER INDUCTOR \_\_\_\_\_

SGTE PART NO. \_\_\_\_\_ GPDC1111-100M \_\_\_\_\_

SAMPLE NO. S10031601 REVISION NO. A DATE 16-Mar-10

## SPECIFICATION FOR APPROVAL

| FULLY APPROVED | REVISE APPROVED |
|----------------|-----------------|
|                |                 |

# GAN TONG

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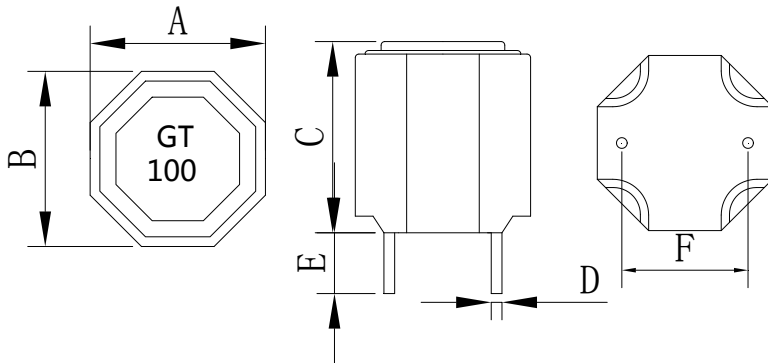
| APPROVED BY | CHECKED BY  | DRAWING BY  |
|-------------|-------------|-------------|
| <b>Andy</b> | <b>Alex</b> | <b>Gary</b> |

# SPECIFICATION

**RoHS  
COMPLIANT**

|                       |                |           |
|-----------------------|----------------|-----------|
| Customers Part Number | Item Name      | Date      |
|                       | Power Inductor | 16-Mar-10 |
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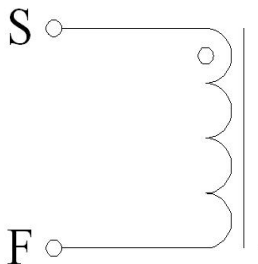
**External Dimensions Unit (mm)**



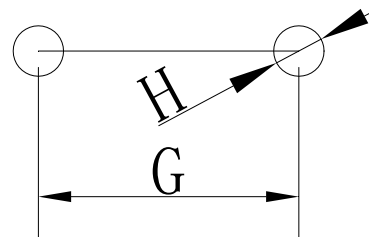
|   |                |
|---|----------------|
| A | 11.0± 0.5 (mm) |
| B | 11.0± 0.5 (mm) |
| C | 12.0Max (mm)   |
| D | 0.8± 0.1 (mm)  |
| E | 3.4± 0.5 (mm)  |
| F | 6.0± 0.5 (mm)  |
| G | 6.0 (ref)      |
| H | 1.2 (ref)      |

Coating:Black

**Connection**



**Recommended Land Pattern**



**Electrical Specification**

| Measurement Item | Unit Tolerance | Specification | Test Frequency | Test Instrument                          |
|------------------|----------------|---------------|----------------|--|
| L                | uH (±20%)      | 10.0uH ±20%   | 100KHz/1V      | LCR Meter Agilent/4284A or Chroma /11300 |
| DCR              | mΩ             | 14.0mΩ (Max)  |                | Chroma /16502                            |
| I rms            | Amps           | 9A            | 100KHz/1V      | LCR Meter Agilent/4284A+42841A           |
| I sat            | Amps           | 12A           | 100KHz/1V      | or Chroma /11300+3302+1320+1320S         |

- I rms: Current that causes a 40°C temperature rise from 25°C ambient.
- I sat: DC current at which the inductance drops 35% from it's value without current.
- All test Data is referenced to 25°C ambient.
- Operating Temperature Range: -25°C to +125°C

# TEST REPORT

**RoHS  
COMPLIANT**

|                       |                |              |      |
|-----------------------|----------------|--------------|------|
| Customers Part Number | Item Name      | Date         |      |
|                       | Power Inductor | 16-Mar-10    |      |
| Gan Tong Part NO.     | Sample NO.     | Revision No. | Page |
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## Electrical Characteristic

| Item          | L0A    | DCR    | I rms     | I sat   |
|---------------|--------|--------|-----------|---------|
| Specification | 10.0uH | 14.0mΩ | 9Amps     | 12Amps  |
| Tolerance     | ±20%   | Max    | ΔT ≤ 40°C | L ≥ 65% |
| 1             | 10.734 | 12.51  | 32.2°C    | 78.8%   |
| 2             | 10.897 | 12.32  |           |         |
| 3             | 10.938 | 12.48  |           |         |
| 4             | 10.872 | 12.45  |           |         |
| 5             | 11.011 | 12.37  |           |         |
| 6             | 11.113 | 12.40  |           |         |
| 7             | 10.959 | 12.36  |           |         |
| 8             | 10.879 | 12.40  |           |         |
| 9             | 11.019 | 12.41  |           |         |
| 10            | 10.978 | 12.38  |           |         |
| $\bar{X}$     | 10.940 | 12.41  |           |         |
| $\sigma$      | 0.10   | 0.05   |           |         |

## External Dimensions

| Item          | A          | B          | C        | D          | E          | F          |
|---------------|------------|------------|----------|------------|------------|------------|
| Specification | 11.0       | 11.0       | 12.0     | 0.8        | 3.4        | 6.0        |
| Tolerance     | ± 0.5 (mm) | ± 0.5 (mm) | Max (mm) | ± 0.1 (mm) | ± 0.5 (mm) | ± 0.5 (mm) |
| 1             | 11.09      | 11.12      | 10.15    | 0.80       | 3.57       | 6.02       |
| 2             | 11.11      | 11.13      | 10.34    | 0.79       | 3.63       | 6.01       |
| 3             | 11.02      | 11.02      | 10.27    | 0.83       | 3.64       | 6.05       |
| 4             | 11.03      | 11.05      | 10.29    | 0.81       | 3.56       | 6.07       |
| 5             | 11.07      | 11.05      | 10.36    | 0.78       | 3.62       | 6.03       |
| 6             | 11.09      | 11.07      | 10.53    | 0.80       | 3.59       | 6.12       |
| 7             | 11.01      | 11.01      | 10.67    | 0.80       | 3.60       | 6.09       |
| 8             | 11.03      | 11.01      | 10.31    | 0.79       | 3.66       | 6.11       |
| 9             | 11.01      | 11.02      | 10.29    | 0.81       | 3.58       | 6.01       |
| 10            | 11.02      | 11.02      | 10.33    | 0.82       | 3.61       | 6.03       |
| $\bar{X}$     | 11.05      | 11.05      | 10.35    | 0.80       | 3.61       | 6.05       |
| $\sigma$      | 0.04       | 0.04       | 0.14     | 0.01       | 0.03       | 0.04       |

Inductance measured at 100KHz/1Vrms.

Electrical specifications at 25°C. Humidity 60±10%

# ELECTRICAL CHARACTERISTICS

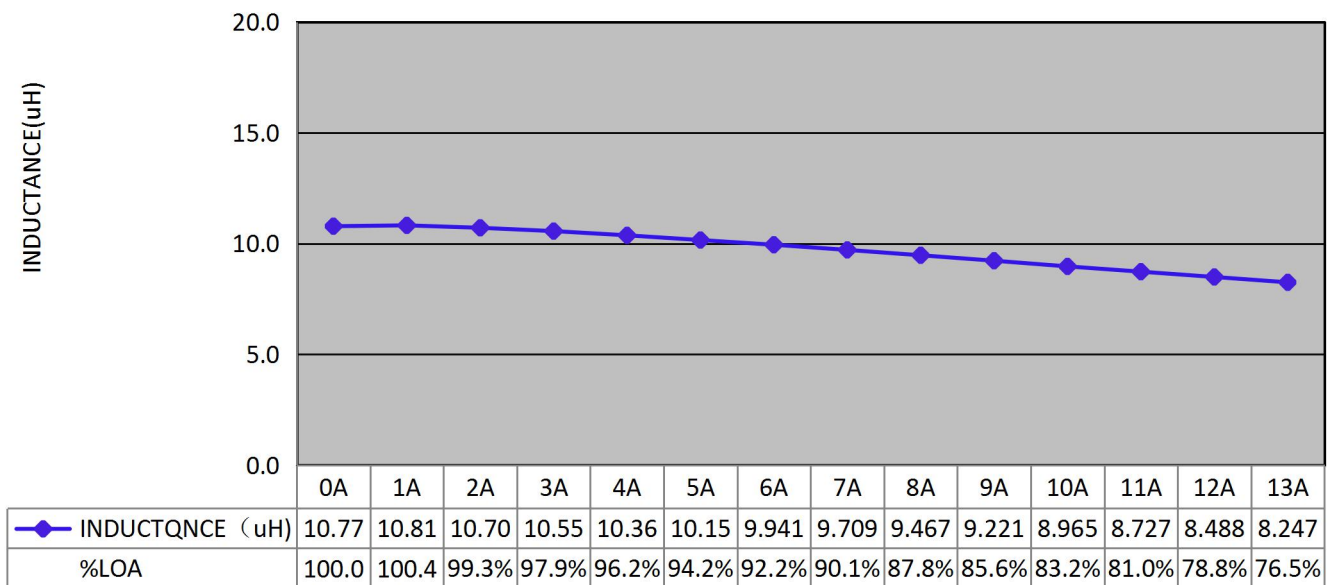
**RoHS  
COMPLIANT**

|                       |                |           |
|-----------------------|----------------|-----------|
| Customers Part Number | Item Name      | Date      |
|                       | Power Inductor | 16-Mar-10 |
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## Inductance VS DC current

| IDC | L      | %LOA   |  |  |  |
|-----|--------|--------|--|--|--|
| 0A  | 10.778 | 100.0% |  |  |  |
| 1A  | 10.816 | 100.4% |  |  |  |
| 2A  | 10.706 | 99.3%  |  |  |  |
| 3A  | 10.557 | 97.9%  |  |  |  |
| 4A  | 10.367 | 96.2%  |  |  |  |
| 5A  | 10.154 | 94.2%  |  |  |  |
| 6A  | 9.941  | 92.2%  |  |  |  |
| 7A  | 9.709  | 90.1%  |  |  |  |
| 8A  | 9.467  | 87.8%  |  |  |  |
| 9A  | 9.221  | 85.6%  |  |  |  |
| 10A | 8.965  | 83.2%  |  |  |  |
| 11A | 8.727  | 81.0%  |  |  |  |
| 12A | 8.488  | 78.8%  |  |  |  |
| 13A | 8.247  | 76.5%  |  |  |  |

CONDITTON: 100KHZ/1.0Vrms



DC BIAS(Amps)

# ELECTRICAL CHARACTERISTICS

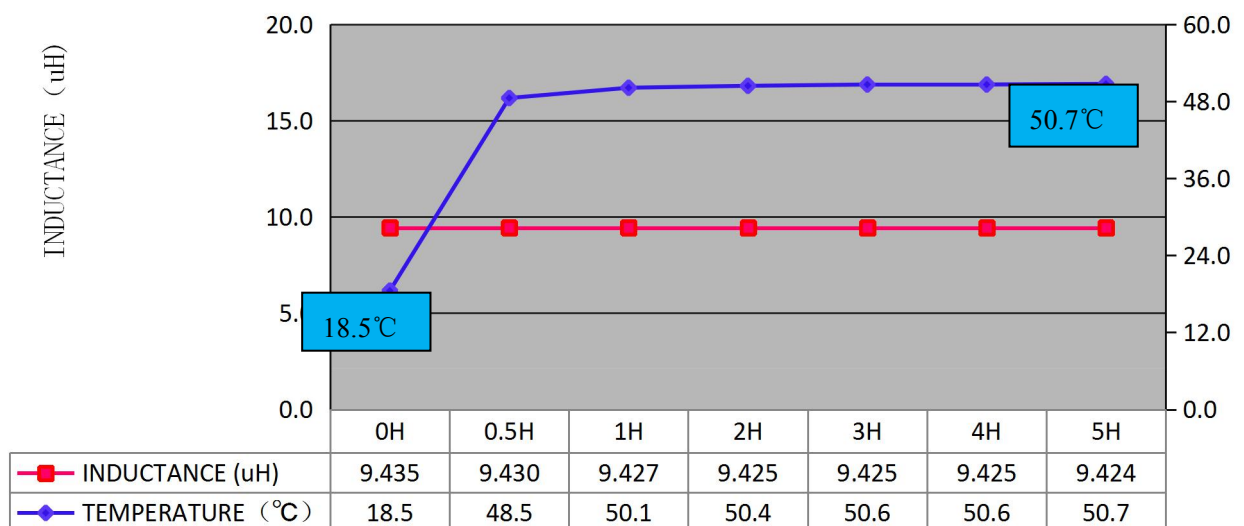
**RoHS  
COMPLIANT**

|                       |                |           |
|-----------------------|----------------|-----------|
| Customers Part Number | Item Name      | Date      |
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## DC current VS Temperature

| Time | L (μH) | T (°C) | ΔT(°C) |  |  |  |
|------|--------|--------|--------|--|--|--|
| 0h   | 9.435  | 18.5   |        |  |  |  |
| 0.5h | 9.430  | 48.5   | 30.0   |  |  |  |
| 1h   | 9.427  | 50.1   | 31.6   |  |  |  |
| 2h   | 9.425  | 50.4   | 31.9   |  |  |  |
| 3h   | 9.425  | 50.6   | 32.1   |  |  |  |
| 4h   | 9.425  | 50.6   | 32.1   |  |  |  |
| 5h   | 9.424  | 50.7   | 32.2   |  |  |  |
|      |        |        |        |  |  |  |
|      |        |        |        |  |  |  |
|      |        |        |        |  |  |  |
|      |        |        |        |  |  |  |
|      |        |        |        |  |  |  |
|      |        |        |        |  |  |  |

CONDITTON: Load 9A



Inductance VS Temperature

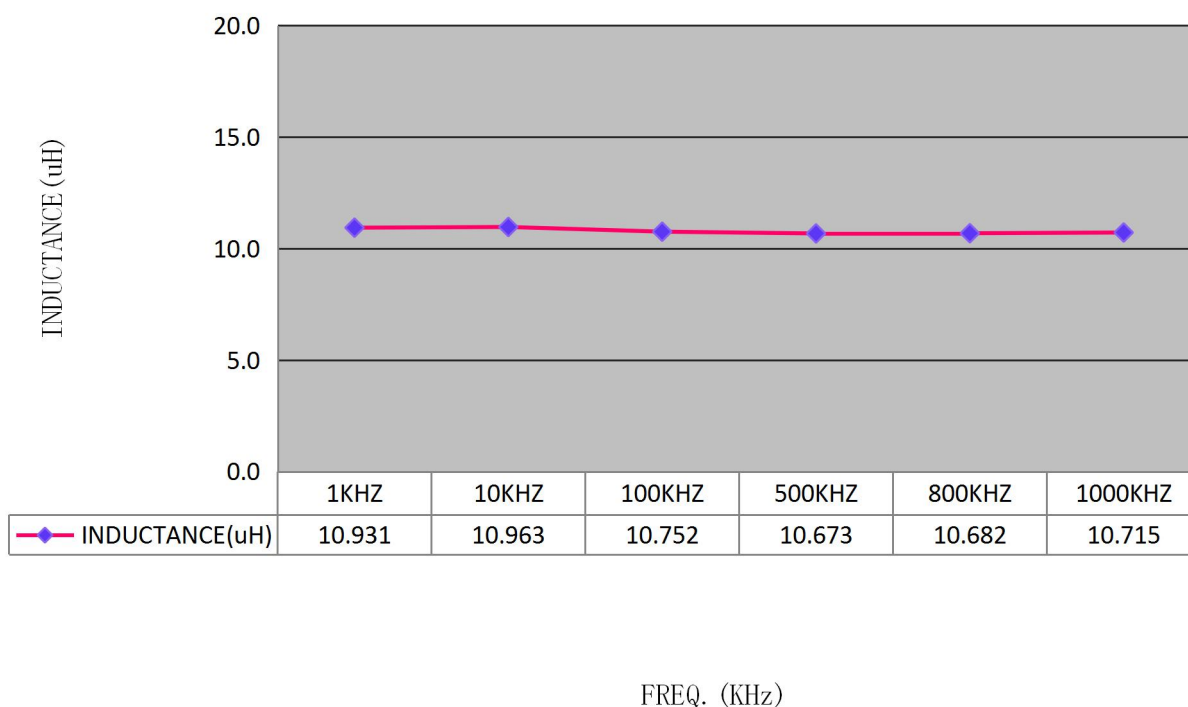
# ELECTRICAL CHARACTERISTICS

**RoHS  
COMPLIANT**

|                       |                |           |
|-----------------------|----------------|-----------|
| Customers Part Number | Item Name      | Date      |
|                       | Power Inductor | 16-Mar-10 |
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## Inductance VS Frequency

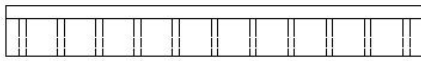
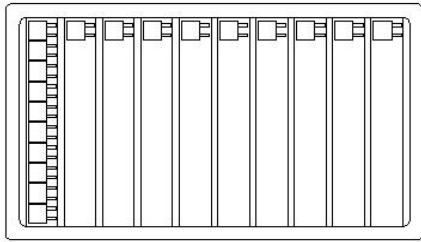
| FREQ.   | L (μH) |  |  |  |  |  |
|---------|--------|--|--|--|--|--|
| 1KHZ    | 10.931 |  |  |  |  |  |
| 10KHZ   | 10.963 |  |  |  |  |  |
| 100KHZ  | 10.752 |  |  |  |  |  |
| 500KHZ  | 10.673 |  |  |  |  |  |
| 800KHZ  | 10.682 |  |  |  |  |  |
| 1000KHZ | 10.715 |  |  |  |  |  |
|         |        |  |  |  |  |  |
|         |        |  |  |  |  |  |
|         |        |  |  |  |  |  |
|         |        |  |  |  |  |  |
|         |        |  |  |  |  |  |
|         |        |  |  |  |  |  |
|         |        |  |  |  |  |  |



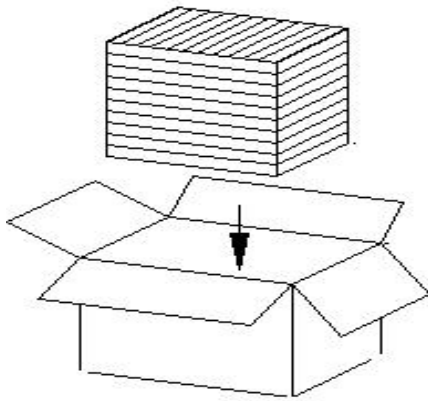
# PACKING FOR SPECIFICATION

**RoHS  
COMPLIANT**

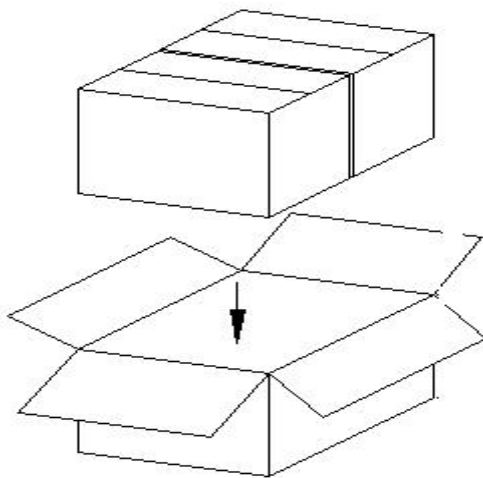
| Customers Part Number | Item Name      | Date      |
|-----------------------|----------------|-----------|
|                       | Power Inductor | 16-Mar-10 |
| Gan Tong Part NO.     | Sample NO.     | Page      |
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PET Size :215\*148 \*16(C)mm  
Quantity : 100PCS/PET



Small box Size : 238\*156\*165 mm  
Quantity : 10PET/Small box  
1Small box/1000PCS



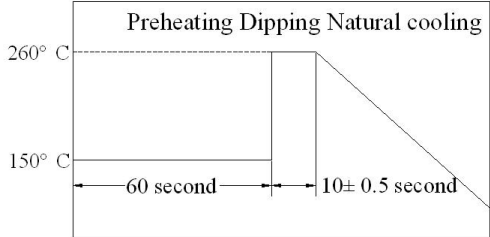
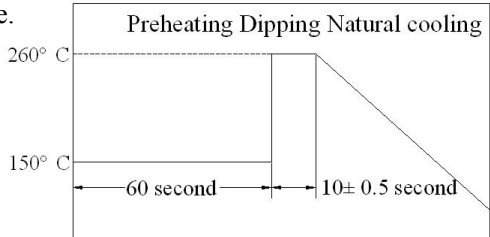
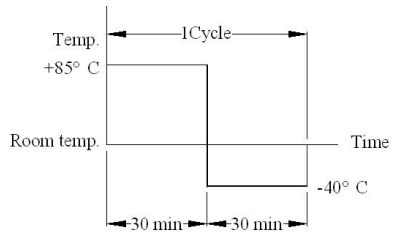
Big box Size : 328\*251\*175 mm  
Quantity : 2 Small box/Big box  
1 Big box/2000PCS



# GENERAL CHARACTERISTICS

Gan Tong Part NO.: GPDC1111-100M

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| Item                                      | Performance  | Test Condition  |
|---|--|---|
| <b>Mechanical Performance Test</b>        |  |   |
| Solder ability Test                       | More than 90% of terminal electrode should be covered with solder.<br>After fluxing, component shall be dipped in a melted solder bath at $260\pm 5^{\circ}\text{C}$ for 10 seconds  |   |
| Solder Heat Resistance                    | Components should have not evidence of electrical and mechanical damage.<br>Inductance: within $\pm 20\%$ of initial value.<br>Preheat: $150^{\circ}\text{C}$ 60 seconds<br>Solder: (SnCu0.7)<br>Solder Temperature: $260\pm 5^{\circ}\text{C}$<br>Flux: Rosin.<br>Dip time: $10\pm 0.5$ seconds |    |
| Low temperature storage test              | 1. Appearance: No damage.<br>2. Inductance: within $\pm 20\%$ of initial value.<br>3. No disconnection or short circuit.   | Temperature: $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Time: $500\pm 12$ Hours<br>Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.                             |
| High temperature storage test             |  | Temperature: $85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Time: $500\pm 2$ Hours<br>Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber.                               |
| Thermal Shock Test<br>(Temperature cycle) |  | $-40\pm 5^{\circ}\text{C}$ for 30 Minutes. $+85\pm 5^{\circ}\text{C}$ for 30 Minutes.<br>Total: 10 Cycles<br>              |
| Humidity load life test                   |  | Temperature: $40\pm 5^{\circ}\text{C}$ Humidity: 90-95%<br>Time: $500\pm 12$ Hours Load: Allowed DC current<br>Recovery: 4to24hrs of recovery under the standard condition after the removal from test chamber. |

# THE CONDITION OF REFLOW

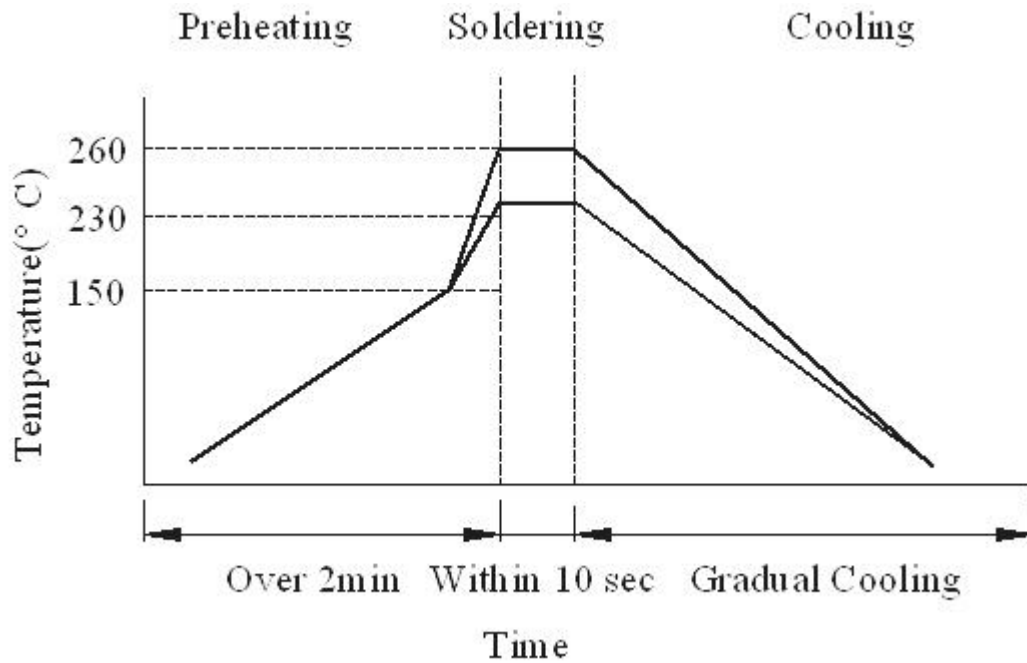
RoHS  
COMPLIANT

Gan Tong Part NO. : GPDC1111-100M

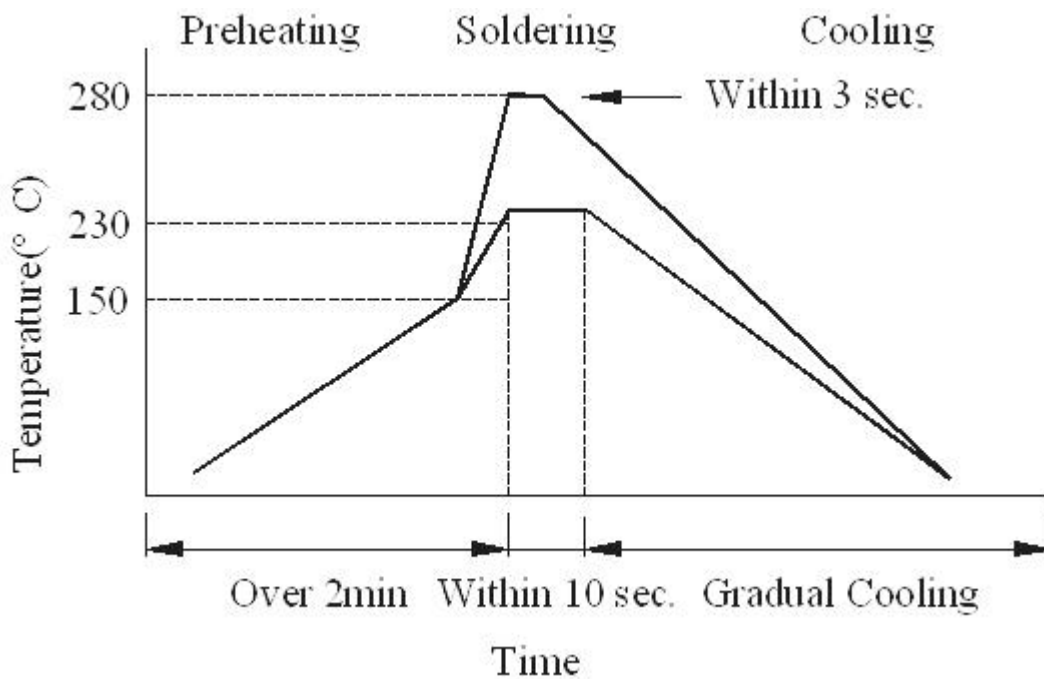
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## Wave Soldering



## Hand soldering



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