

**5009**

CUSTOMER \_\_\_\_\_

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

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

SGTE PART NO. \_\_\_\_\_ GPDC1010-150M04 \_\_\_\_\_

SAMPLE NO. S11070802 REVISION NO. A DATE 08-July-11

## SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

**SGTE 感通科技**

深圳感通科技有限公司 (大陸工廠)

GANTONG TECHNOLOGY (SHENZHEN) CO., LTD.

深圳市平湖街道平湖村萬福路 26 號

No.26 Wan fu Road, Ping hu Village. Ping hu town, Shenzhen City.

Tel: 0755-28457600

Fax: 0755-28452952

感通科技有限公司 (台灣辦事處)

臺北縣汐止市新台 5 路一段 77 號 10 樓之 7

10F~7, N0.77, Sec.1, Hsin Tai 5 Road, Shi-chi City, Taipei.

Tel: 886-2-8698-2341

Fax: 886-2-8698-2342

納美科技股份有限公司 (香港辦事處)

LAPEE TECHNOLOGY LIMITED

香港九龍尖沙嘴加連威老道嘉蘭圍 5-11 號利時商業大廈 17 樓 1713 室

Room 1713 17/F, Rise Commercial Bldg5-11 Granville Cri cuit, Granville Rd, TSim Sha Tsui., Kln

Tel: 852-25301111

Fax: 852-25371111

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# SPECIFICATION

**RoHS  
COMPLIANT**

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APPROVED BY

CHECKED BY

DRAWING BY

**Jesse**

**Tony**

**Stone**

7/08

7/08

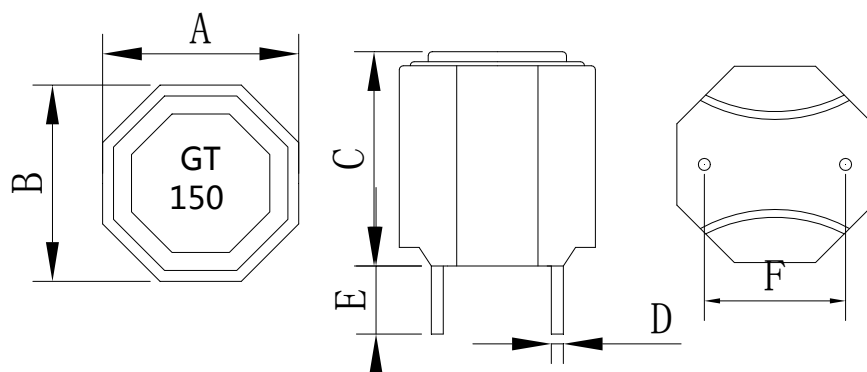
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# SPECIFICATION

**RoHS  
COMPLIANT**

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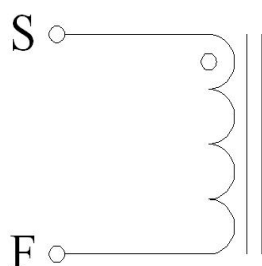
## External Dimensions Unit (mm)



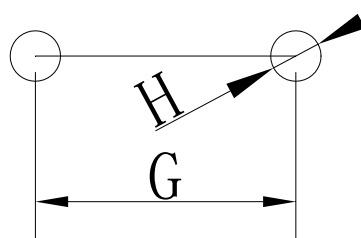
A	10.0± 0.5 (mm)
B	10.0± 0.5 (mm)
C	12.0Max (mm)
D	0.6± 0.1 (mm)
E	3.5± 0.3 (mm)
F	5.0± 0.5 (mm)
G	5.0± 0.5(mm)
H	1.0 (ref)

Coating:Black

## Connection



## Recommended Land Pattern



## Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	15.0uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	35mΩ (Max)		Chroma /16502
I rms	Amps	4.5A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	7A	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**

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## Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	15.0uH	35mΩ	4.5Amps	7Amps
Tolerance	±20%	Max	ΔT ≤ 40°C	L ≥ 65%
1	15.60	24.32	9.7°C	84.7%
2	15.90	24.25		
3	15.87	24.43		
4	15.80	24.09		
5	15.77	24.25		
6	15.91	24.33		
7	15.85	24.36		
8	15.60	24.33		
9	15.71	24.26		
10	15.80	24.33		
$\bar{X}$	15.781	24.30		
$\sigma$	0.11	0.09		

## External Dimensions

Item	A	B	C	D	E	F
Specification	10.0	10.0	12.0	0.6	3.5	5.0
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.3 (mm)	± 0.5 (mm)
1	10.37	10.37	9.78	0.65	3.42	5.07
2	10.42	10.36	9.72	0.66	3.51	5.17
3	10.35	10.35	9.75	0.62	3.48	5.15
4	10.30	10.32	9.54	0.61	3.47	5.10
5	10.31	10.34	9.69	0.60	3.50	5.19
6	10.34	10.31	9.70	0.62	3.52	5.09
7	10.32	10.30	9.69	0.61	3.49	5.18
8	10.35	10.35	9.64	0.64	3.44	5.14
9	10.36	10.42	9.58	0.65	3.47	5.22
10	10.37	10.37	9.65	0.63	3.50	5.21
$\bar{X}$	10.35	10.35	9.67	0.63	3.48	5.15
$\sigma$	0.03	0.03	0.07	0.02	0.03	0.05

Inductance measured at 100KHz/1Vrms.

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

# ELECTRICAL CHARACTERISTICS

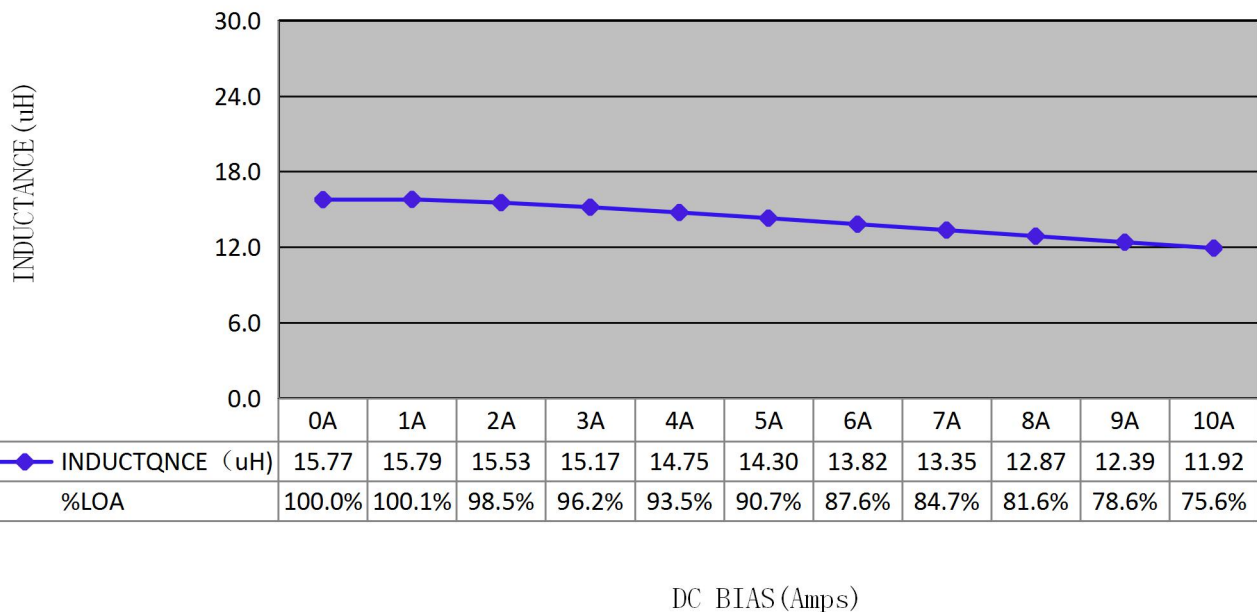
**RoHS  
COMPLIANT**

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## Inductance VS DC current

IDC	L	%LOA				
0A	15.77	100%				
1A	15.79	100.1%				
2A	15.53	98.5%				
3A	15.17	96.2%				
4A	14.75	93.5%				
5A	14.30	90.7%				
6A	13.82	87.6%				
7A	13.35	84.7%				
8A	12.87	81.6%				
9A	12.39	78.6%				
10A	11.92	75.6%				

CONDITTON: 100KHZ/1.0Vrms



# ELECTRICAL CHARACTERISTICS

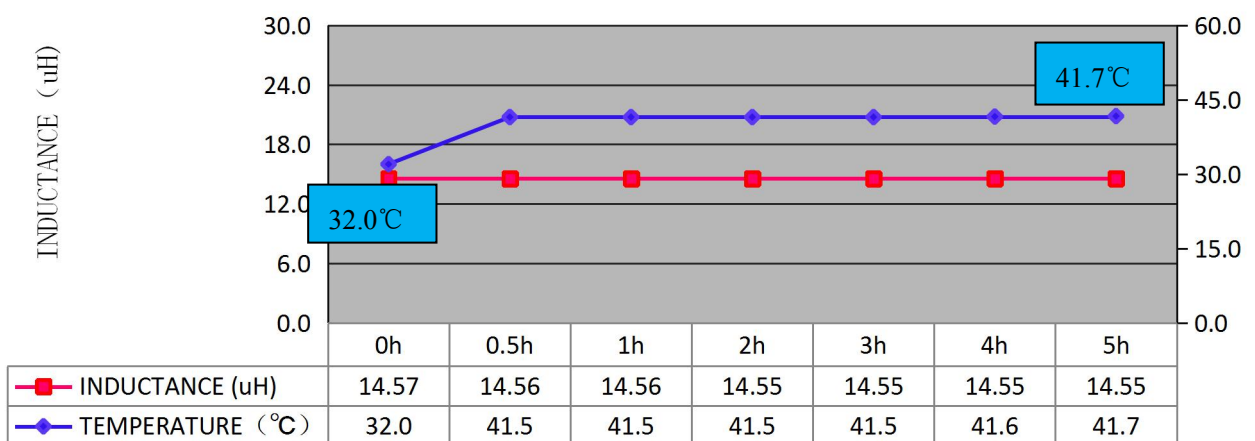
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## DC current VS Temperature

Time	L (μH)	T (°C)	ΔT(°C)			
0h	14.57	32.0				
0.5h	14.56	41.5	9.5			
1h	14.56	41.5	9.5			
2h	14.55	41.5	9.5			
3h	14.55	41.5	9.5			
4h	14.55	41.6	9.6			
5h	14.55	41.7	9.7			

CONDITTON: Load 4.5A



Inductance VS Temperature

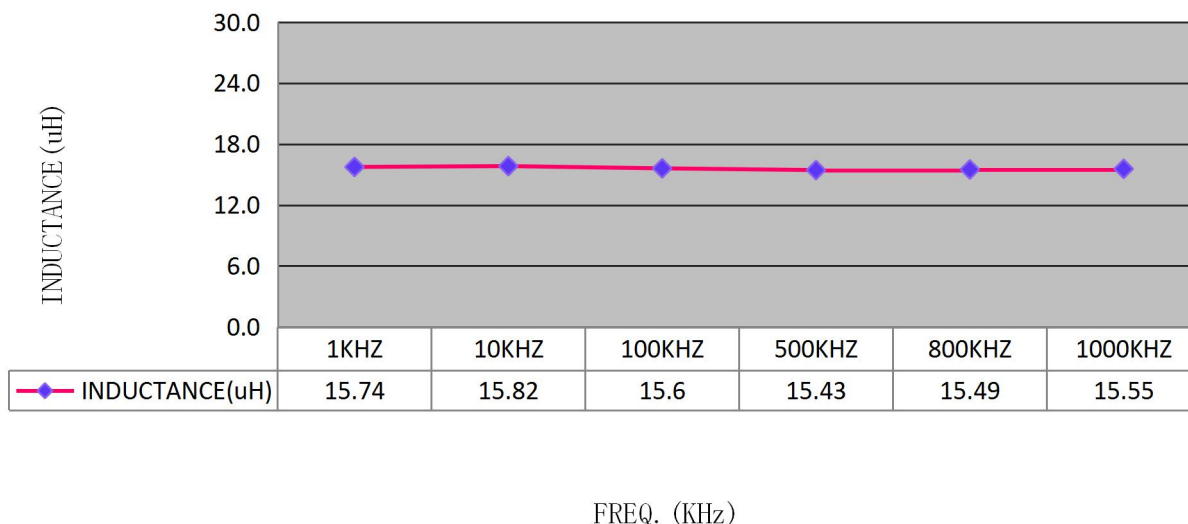
# ELECTRICAL CHARACTERISTICS

**RoHS  
COMPLIANT**

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## Inductance VS Frequency

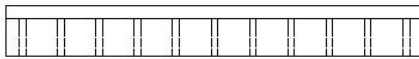
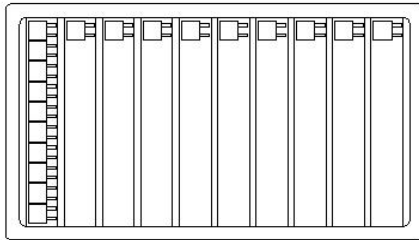
FREQ.	L (μH)					
1KHZ	15.74					
10KHZ	15.82					
100KHZ	15.60					
500KHZ	15.43					
800KHZ	15.49					
1000KHZ	15.55					



# PACKING FOR SPECIFICATION

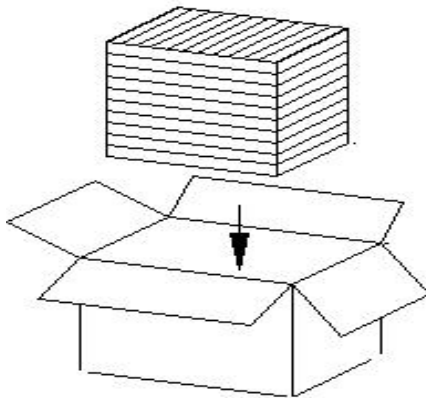
**RoHS  
COMPLIANT**

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PET Size : 215\*148 \*16 (D) mm

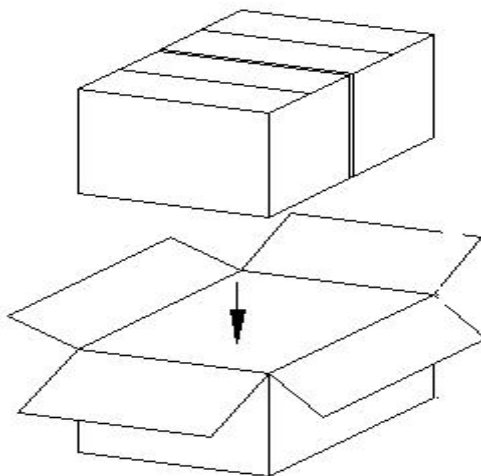
Quantity : 130PCS/PET



Small box Size : 238\*156\*165 mm

Quantity : 10PET/Small box

1Small box/1300PCS



Big box Size : 328\*251\*175 mm

Quantity : 2 Small box/Big box

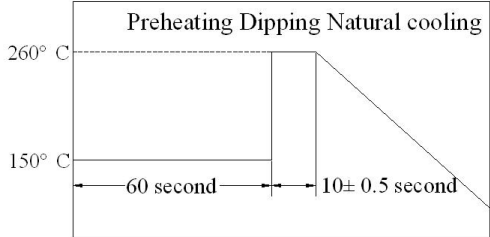
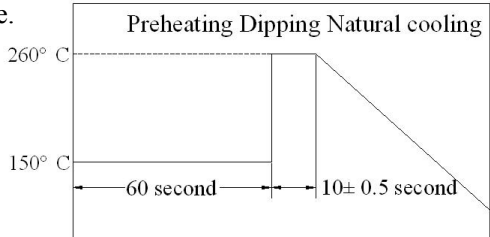
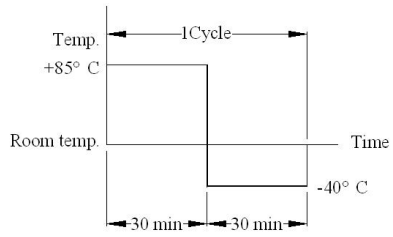
1 Big box/2600PCS



# GENERAL CHARACTERISTICS

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

# THE CONDITION OF REFLOW

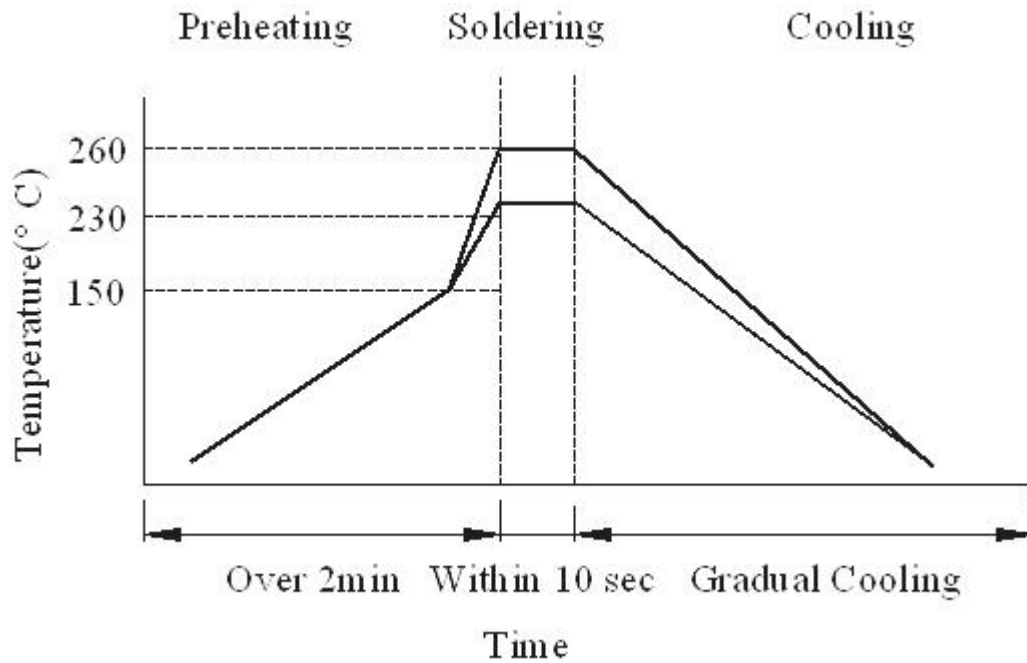
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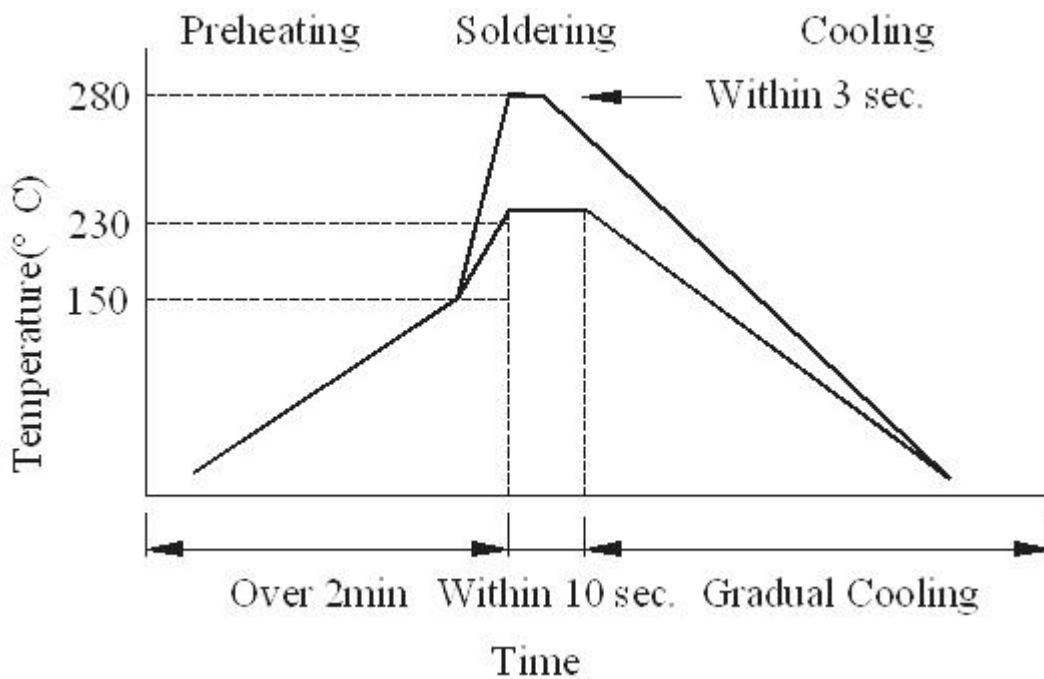
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## Wave Soldering



## Hand soldering



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