

**5001**

CUSTOMER \_\_\_\_\_

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

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

SGTE PART NO. \_\_\_\_\_ GPDA1111-R47MT \_\_\_\_\_

SAMPLE NO. S09092401 REVISION NO. A DATE 24-Sep-09

## SPECIFICATION FOR APPROVAL

FULLY APPROVED	REVISE APPROVED

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## INDEX

### COVER PAGE

- SHAPE & DIMENSION.....1-8
  
- ELECTRICAL CHARACTERISTICS AND EXTERNAL  
TEST REPORT.....2-8
  
- ELECTRICAL CHARACTERISTICS.....3-8
  
- ELECTRICAL CHARACTERISTICS.....4-8
  
- ELECTRICAL CHARACTERISTICS.....5-8
  
- PACKING FOR SPECIFICATION.....6-8
  
- GENERAL CHARACTERISTICS.....7-8
  
- THE CONDITION OF REFLOW.....8-8

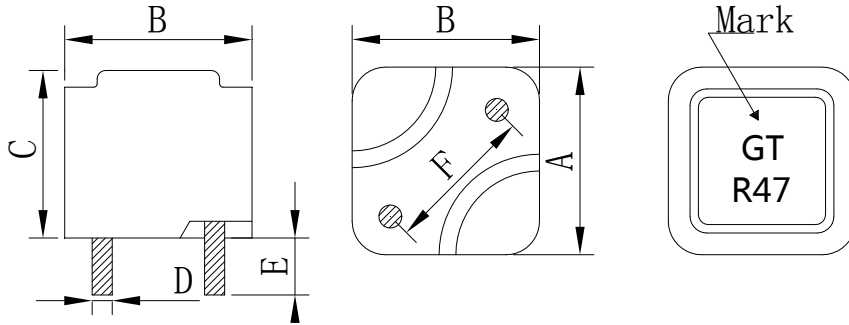
APPROVED BY	CHECKED BY	DRAWING BY
		<b>Lisa</b>  9/24

# SPECIFICATION

**RoHS  
COMPLIANT**

Customers Part Number	Item Name	Date
	Power Inductor	24-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDA1111-R47MT	S09092401	1-8

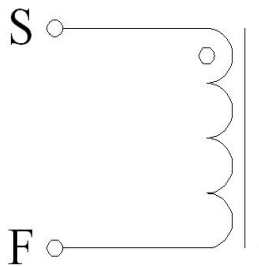
## External Dimensions Unit (mm)



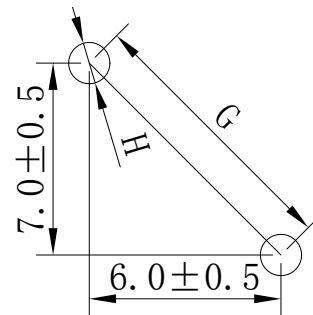
A	11.0± 0.5 (mm)
B	11.0± 0.5 (mm)
C	9.0Max (mm)
D	1.5± 0.1 (mm)
E	3.4± 0.5 (mm)
F	9.2± 0.5 (mm)
G	9.2± 0.5 (mm)
H	1.9 (ref)

Coating:Black

## Connection



## Recommended Land Pattern



## Electrical Specification

Measurement Item	Unit Tolerance	Specification	Test Frequency	Test Instrument
L	uH (±20%)	0.47uH ±20%	100KHz/1V	LCR Meter Agilent/4284A or Chroma /11300
DCR	mΩ	0.85mΩ (Max)		Chroma /16502
I rms	Amps	35A	100KHz/1V	LCR Meter Agilent/4284A+42841A
I sat	Amps	45A	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	24-Sep-09	
Gan Tong Part NO.	Sample NO.	Revision No.	Page
GPDA1111-R47MT	S09092401	A	2-8

## Electrical Characteristic

Item	L0A	DCR	I rms	I sat
Specification	0.47uH	0.85mΩ	35Amps	45Amps
Tolerance	±20%	Max	$\Delta T \leq 40^{\circ}\text{C}$	$L \geq 65\%$
1	0.490	0.64	32°C	78.6%
2	0.494	0.66		
3	0.486	0.67		
4	0.488	0.65		
5	0.492	0.66		
6	0.497	0.66		
7	0.491	0.68		
8	0.479	0.69		
9	0.490	0.67		
10	0.497	0.69		
$\bar{X}$	0.490	0.67		
$\sigma$	0.01	0.02		

## External Dimensions

Item	A	B	C	D	E	F
Specification	11.0	11.0	9.0	1.5	3.4	9.2
Tolerance	± 0.5 (mm)	± 0.5 (mm)	Max (mm)	± 0.1 (mm)	± 0.5 (mm)	± 0.5 (mm)
1	11.09	11.14	7.65	1.52	3.47	9.21
2	11.06	11.11	7.70	1.55	3.59	9.19
3	11.08	11.09	7.81	1.53	3.49	9.21
4	11.07	11.11	7.55	1.50	3.51	9.18
5	11.08	11.05	7.39	1.52	3.47	9.25
6	11.10	11.08	7.71	1.54	3.48	9.27
7	11.09	11.09	7.66	1.54	3.45	9.15
8	11.07	11.09	7.57	1.52	3.49	9.15
9	11.08	11.07	7.61	1.50	3.47	9.19
10	11.10	11.06	7.55	1.53	3.41	9.21
$\bar{X}$	11.08	11.09	7.62	1.53	3.48	9.20
$\sigma$	0.01	0.03	0.11	0.02	0.04	0.04

Inductance measured at 100KHz/1Vrms.

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

# ELECTRICAL CHARACTERISTICS

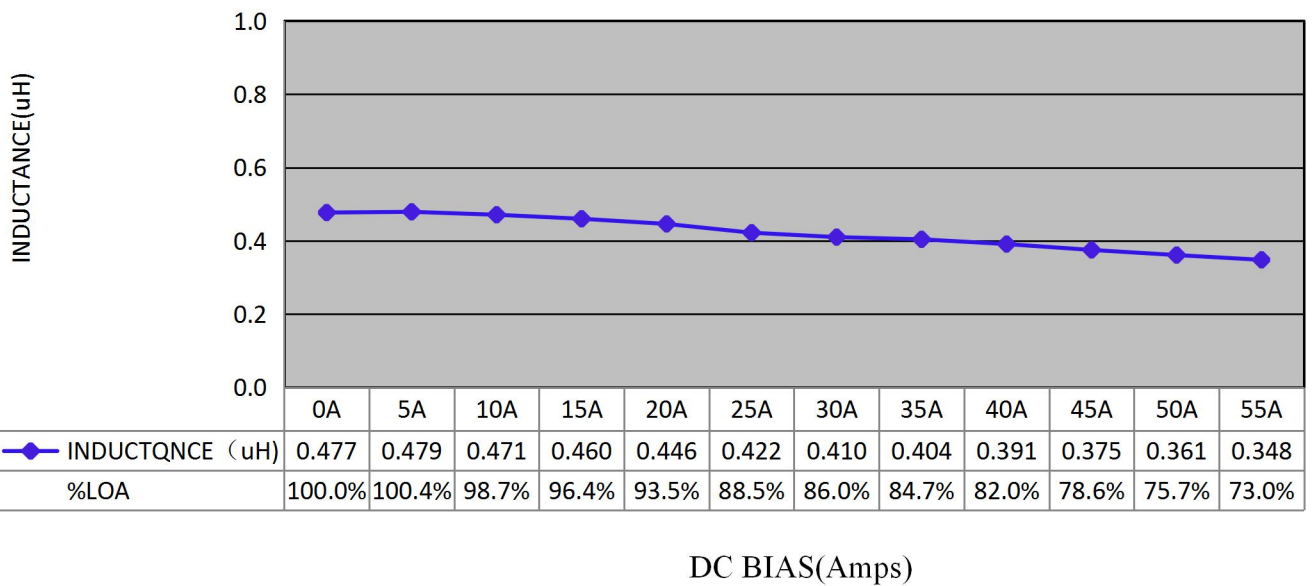
**RoHS  
COMPLIANT**

Customers Part Number	Item Name	Date
	Power Inductor	24-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDA1111-R47MT	S09092401	3-8

## Inductance VS DC current

IDC	L	%LOA				
0A	0.477	100%				
5A	0.479	100.4%				
10A	0.471	98.7%				
15A	0.460	96.4%				
20A	0.446	93.5%				
25A	0.422	88.5%				
30A	0.410	86.0%				
35A	0.404	84.7%				
40A	0.391	82.0%				
45A	0.375	78.6%				
50A	0.361	75.7%				
55A	0.348	73.0%				

CONDITTON: 100KHZ/1.0Vrms



# ELECTRICAL CHARACTERISTICS

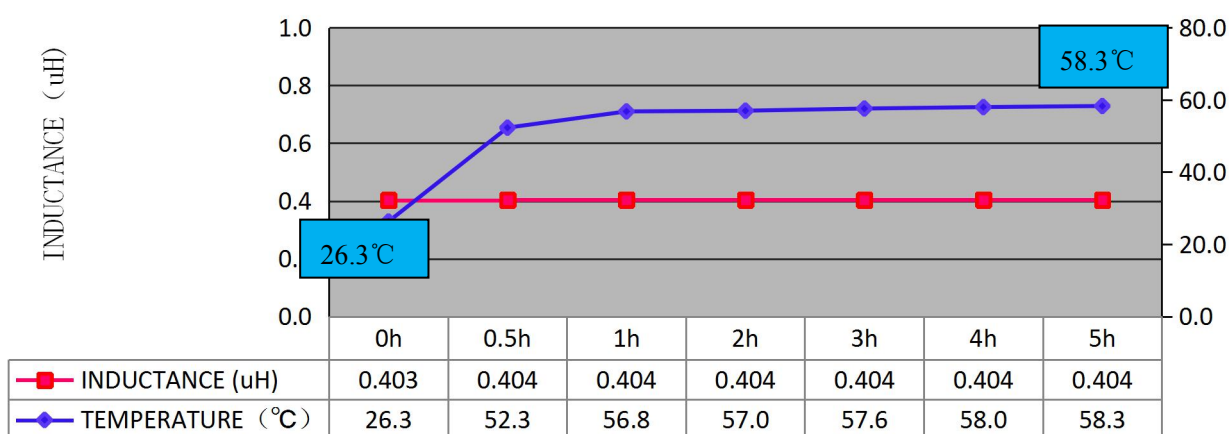
RoHS  
COMPLIANT

Customers Part Number	Item Name	Date
	Power Inductor	24-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDA1111-R47MT	S09092401	4-8

## DC current VS Temperature

Time	L ( $\mu\text{H}$ )	T ( $^{\circ}\text{C}$ )	$\Delta\text{T} (^{\circ}\text{C})$			
0h	0.403	26.3				
0.5h	0.404	52.3	26.0			
1h	0.404	56.8	30.5			
2h	0.404	57.0	30.7			
3h	0.404	57.6	31.3			
4h	0.404	58.0	31.7			
5h	0.404	58.3	32.0			

CONDITTON: Load 35A



Inductance VS Temperature

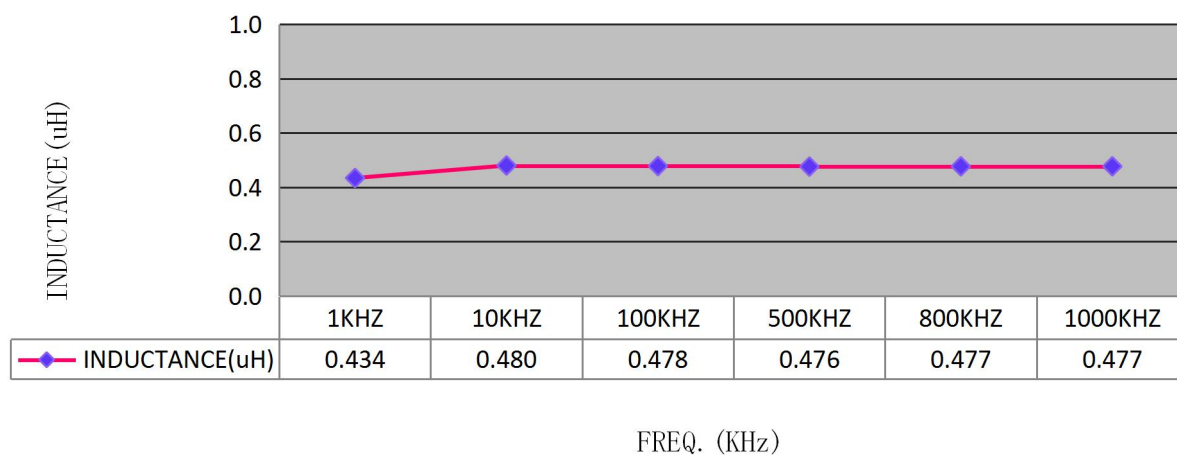
# ELECTRICAL CHARACTERISTICS

**RoHS  
COMPLIANT**

Customers Part Number	Item Name	Date
	Power Inductor	24-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDA1111-R47MT	S09092401	5-8

## Inductance VS Frequency

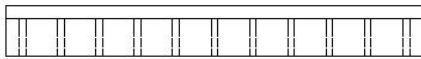
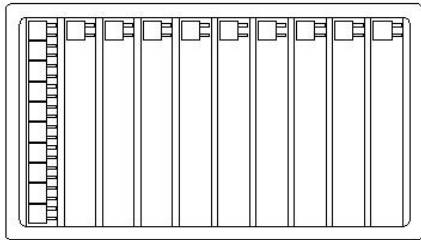
FREQ.	L (μH)					
1KHZ	0.434					
10KHZ	0.480					
100KHZ	0.478					
500KHZ	0.476					
800KHZ	0.477					
1000KHZ	0.477					



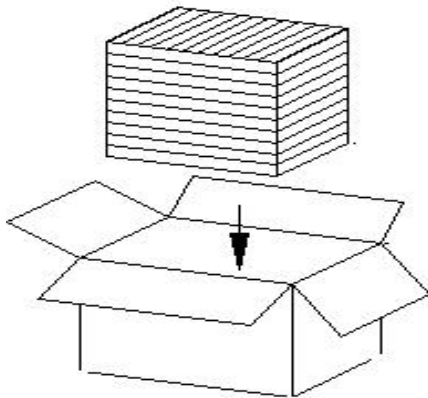
# PACKING FOR SPECIFICATION

**RoHS  
COMPLIANT**

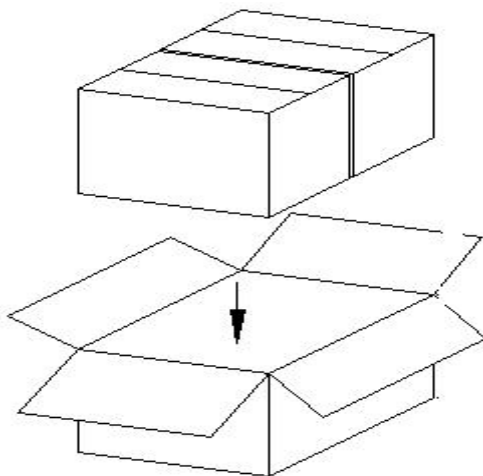
Customers Part Number	Item Name	Date
	Power Inductor	24-Sep-09
Gan Tong Part NO.	Sample NO.	Page
GPDA1111-R47MT	S09092401	6-8



PET Size : 215\*148 \*16(C)mm  
Quantity : 100PCS/PET



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



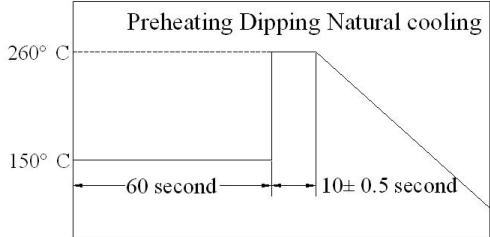
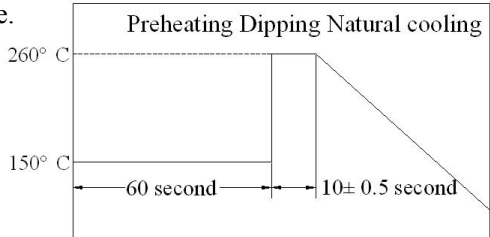
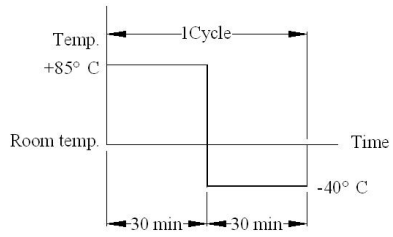
Big box Size : 328\*251\*175 mm  
Quantity : 2 Small box/Big box  
1 Big box/2000PCS



# GENERAL CHARACTERISTICS

Gan Tong Part NO.: GPDA1111-R47MT

PAGE : 7-8

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

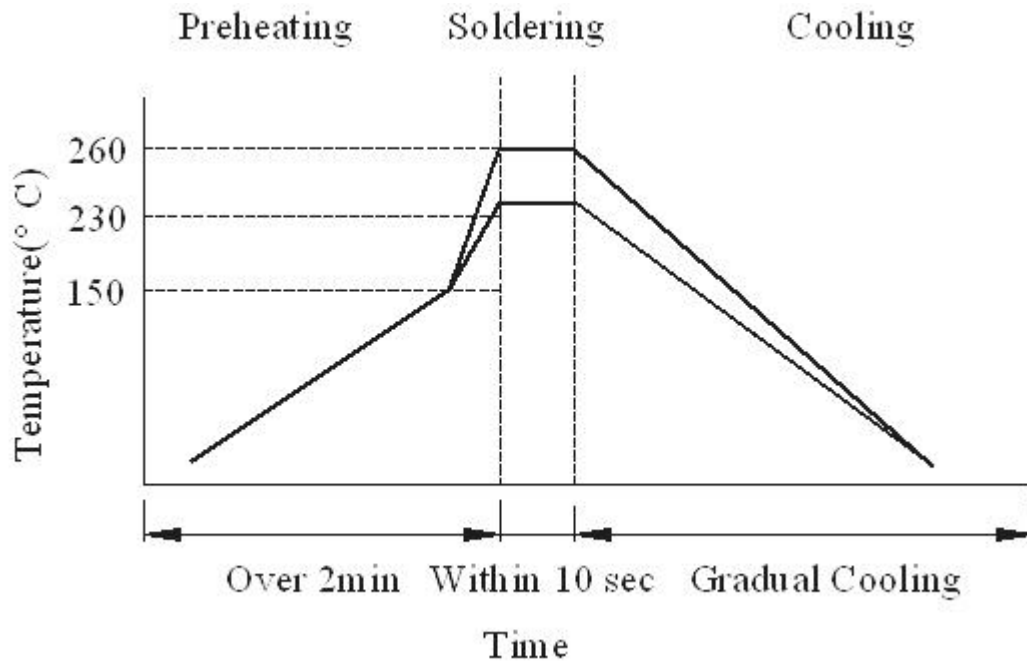
RoHS  
COMPLIANT

Gan Tong Part NO. : GPDA1111-R47MT

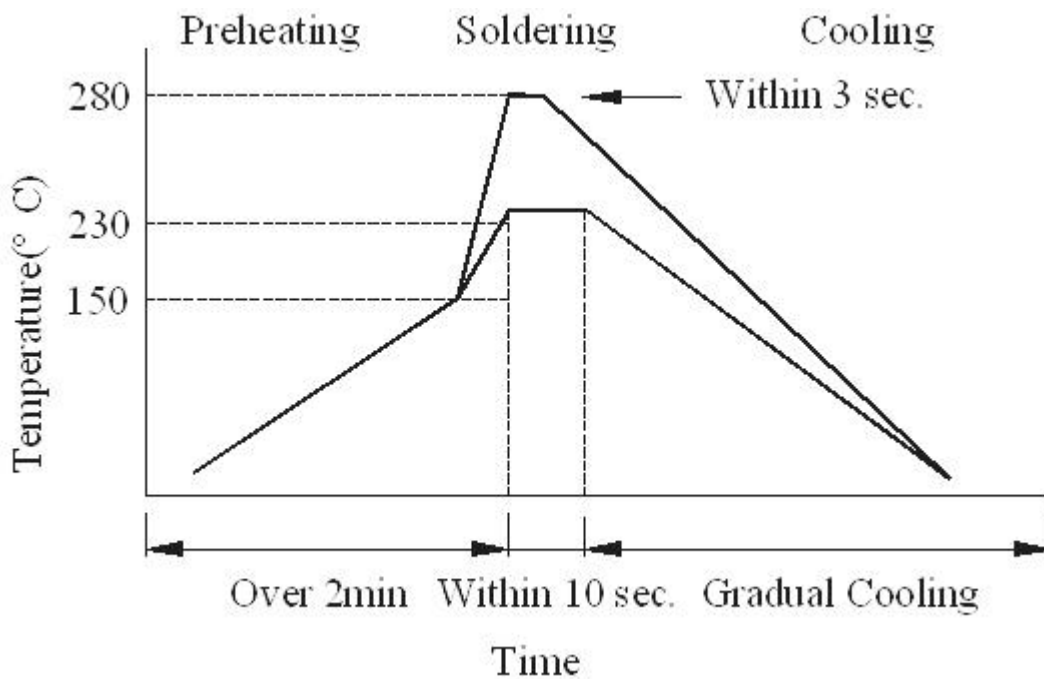
PAGE :

8-8

## Wave Soldering



## Hand soldering



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