

 敏洲科技有限公司  
**MINGTEK TECHNOLOGY CORP.**

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**FOR APPROVAL**

WE ARE PLEASED IN SUBMITTING YOU HEREWITH OUR SPECIFICATION,  
DRAWING TOGETHER WITH SAMPLES FOR YOUR APPROVAL. PLEASE RETURN  
TO US ONE COPY WITH YOUR AUTHORIZED SIGNATURES AS APPROVED.

CUSTOMER :

DESCRIPTION : **10/100/1000 BASE-T SINGLE PORT MAGNETICS MODULES**

PART NUMBER : **HN18101CG**

ISSUE DATE :

CUSTOMER'S PART NUMBER	
APPROVED DATE	
APPROVED SIGNATURE	

TEL:886-2-86717511

FAX:886-2-86717611

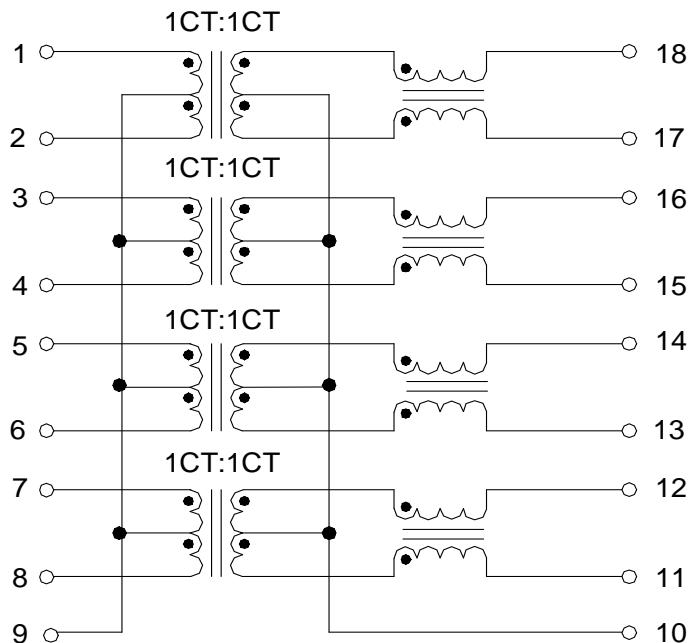
REGISTERED OFFICE : No. 491, Dade Rd., Sanxia Dist., New Taipei City 237, Taiwan

## SAMPLE TEST DATA

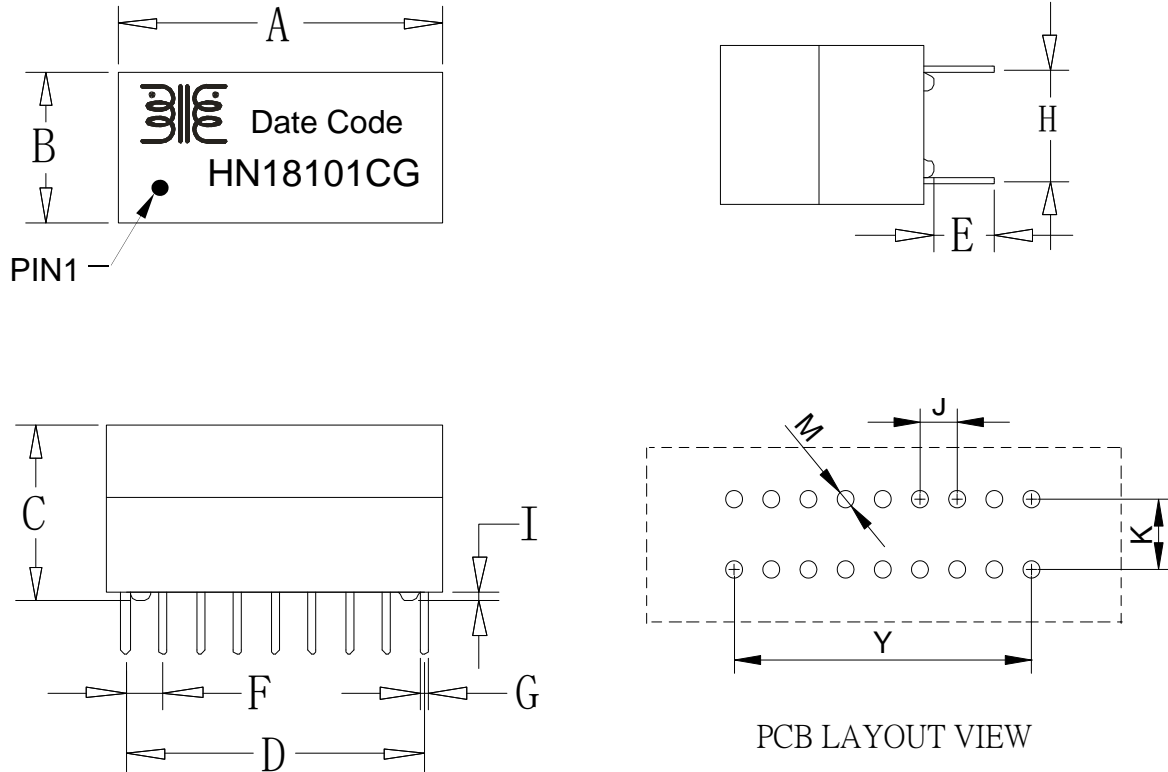
### A. ELECTRICAL SPECIFICATIONS @25°C

Inductance OCL:	350uH Min @ 100KHz	0.2V	8mA	DC	BIAS
Leakage Inductance:	0.50uH Max @ 100KHz	0.2V			
Interwinding Capacitance:	100PF TYP @ 100KHz	0.2V			
Turn Ratio:	1CT:1CT±5%				
Polarity:	1-18,3-16,5-14,7-12	In-Phase			
Insertion Loss:	1-100 MHz	- 1.1dB	Max		
Return Loss	0.5-30 MHz	- 18.0dB	Min		
	40 MHz	- 14.4dB	Min		
	50 MHz	- 13.1dB	Min		
	60-80 MHz	- 12.0dB	Min		
Cross Talk:	0.5-60 MHz	- 40dB	Min		
	60-100 MHz	- 35dB	Min		
DCMR	0.5-100 MHz	- 30dB	Min		
Isolation HI-POT:	1500VDC	10mA	1S		
Operating Temperature:	0°C	TO	70°C		
<b>Product Type:</b>	<b>Green Product</b>				

### B. SCHEMATIC:



## C. DIMENSIONS & MARKING:



DIM	MILLIMETERS (mm)		INCHES(inch)	
	MIN	MAX	MIN	MAX
A	16.50	18.50	0.650	0.728
B	8.00	9.00	0.315	0.354
C	12.20(max)		0.480(max)	
D	14.24(typical)		0.560(typical)	
E	2.90	3.50	0.114	0.138
F	1.78(typical)		0.070(typical)	
G	0.45(typical)		0.018(typical)	
H	4.80(typical)		0.189(typical)	
I	0.20	0.50	0.008	0.020
M	0.80(typical)		0.031(typical)	
J	1.78(typical)		0.070(typical)	
K	4.80(typical)		0.189(typical)	
Y	14.24(typical)		0.560(typical)	

## SAMPLE TEST DATA

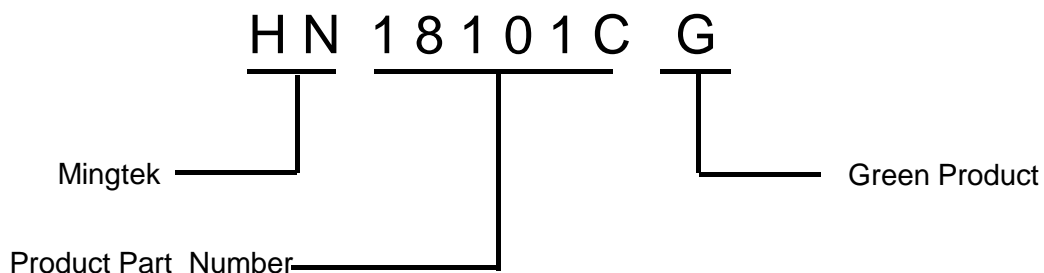
### *D. HAZARDOUS TEST REPORT:*

Test Item(s)	Unit	Method	MDL	Result
Chromium VI(Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A	<100	<100
Cadmium(Cd)	ppm	ICP-AES after as per EN1122, method B:2001 or other acid digestion	2	N.D
Mercury(Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion	2	N.D
Lead(Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion	<1000	<1000
PBBs(Polybrominated biphenyls)(CAS NO:67774-32-7)	%	With reference to 83/264/EEC.Analysis Was Performed by GC/MS/ECD or HPLC/DAD/MS	0.0005	N.D
PBBEs(PBDEs) (Polybrominated biphenyl ethers)	%	With reference to 83/264/EEC.Analysis Was Performed by GC/MS/ECD or HPLC/DAD/MS	0.0005	N.D

**NOTE:**

- (1) N.D = Not detected(<MDL)
- (2) ppm = mg/kg
- (3) MDL = Method Detection Limit

### *E. PART NUMBER LEGEND:*



## SAMPLE TEST DATA

SPEC \ NO	1	2	3	4	5
L:(AT 100KHz 0.2V 8mA)					
350uH Min					
1-2	524	564	510	479	542
3-4	536	532	523	506	489
5-6	498	546	546	514	495
7-8	527	496	498	509	504
LK:(AT 100KHz 0.2V)					
0.5uH Max					
1-2(18-17 short)	0.36	0.34	0.39	0.37	0.38
3-4(16-15 short)	0.38	0.36	0.38	0.34	0.36
5-6(14-13 short)	0.35	0.37	0.41	0.39	0.40
7-8(12-11 short)	0.34	0.42	0.38	0.42	0.39
CWW:(AT 100KHz 0.2V)					
100PF TYP					
1-2 TO 18-17	65.2	68.5	72.1	75.4	74.0
3-4 TO 16-15	64.8	69.5	76.0	75.2	74.6
5-6 TO 14-13	65.0	66.2	74.2	75.0	74.2
7-8 TO 12-11	66.8	67.5	73.9	75.1	74.0
Turns Ratio:					
(1-2):(18-17)=1CT:1CT±5%	OK	OK	OK	OK	OK
(3-4):(16-15)=1CT:1CT±5%	OK	OK	OK	OK	OK
(5-6):(14-13)=1CT:1CT±5%	OK	OK	OK	OK	OK
(7-8):(12-11)=1CT:1CT±5%	OK	OK	OK	OK	OK
HI-POT:					
AT:1500VDC 10mA 1S					
1-2 TO 18-17	OK	OK	OK	OK	OK
3-4 TO 16-15	OK	OK	OK	OK	OK
5-6 TO 14-13	OK	OK	OK	OK	OK
7-8 TO 12-11	OK	OK	OK	OK	OK
MAIN TEST EQUIPMENT					
<input type="checkbox"/> CHANGCHUANG CC2670 WITHSTANDING VOLTAGE TESTER					
<input type="checkbox"/> JINKAITAI 3250 AUTOMATIC TRANSFORMER TEST SYSTEM					
<input checked="" type="checkbox"/> TONGHUI TH2818 AUTOMATIC TRANSFORMER TEST SYSTEM					
<input type="checkbox"/> RF NETWORK ANALYZERS 8712ET					

## SAMPLE TEST DATA

SPEC \ NO	1	2	3	4	5
Insertion Loss:					
-1.1dB Max(1-100MHz)					
1-2:					
30MHz	0.30	0.29	0.29	0.27	0.30
40MHz	0.44	0.41	0.40	0.31	0.43
50MHz	0.54	0.51	0.53	0.35	0.55
60MHz	0.58	0.53	0.54	0.43	0.58
80MHz	0.62	0.55	0.57	0.46	0.60
100MHz	0.54	0.51	0.48	0.55	0.51
3-4:					
30MHz	0.32	0.32	0.27	0.29	0.30
40MHz	0.46	0.47	0.37	0.33	0.35
50MHz	0.56	0.57	0.46	0.38	0.43
60MHz	0.59	0.62	0.48	0.46	0.49
80MHz	0.32	0.67	0.51	0.53	0.51
100MHz	0.58	0.59	0.42	0.55	0.56
5-6:					
30MHz	0.34	0.28	0.25	0.30	0.28
40MHz	0.45	0.41	0.37	0.42	0.40
50MHz	0.59	0.52	0.45	0.51	0.52
60MHz	0.64	0.54	0.46	0.56	0.54
80MHz	0.70	0.59	0.48	0.60	0.57
100MHz	0.61	0.53	0.42	0.51	0.53
7-8:					
30MHz	0.29	0.32	0.25	0.30	0.27
40MHz	0.37	0.46	0.37	0.42	0.40
50MHz	0.46	0.58	0.42	0.55	0.51
60MHz	0.47	0.59	0.44	0.57	0.52
80MHz	0.48	0.64	0.45	0.60	0.55
100MHz	0.42	0.60	0.37	0.53	0.51
Return Loss:					
-18dB Min(0.5-30MHz)					
-14.4dB Min(40MHz)					
-13.1dB Min(50MHz)					
-12dB Min(60-80MHz)					
MAIN TEST EQUIPMENT					
<input checked="" type="checkbox"/> CHANGCHUANG CC2670 WITHSTANDING VOLTAGE TESTER <input type="checkbox"/> JINKAITAI 3250 AUTOMATIC TRANSFORMER TEST SYSTEM <input type="checkbox"/> TONGHUI TH2818 AUTOMATIC TRANSFORMER TEST SYSTEM <input checked="" type="checkbox"/> RF NETWORK ANALYZERS 8712ET					



# Mingtek Technology Corp.

## SAMPLE TEST DATA

SPEC \ NO	1	2	3	4	5
1-2:					
30MHz	21.7	23.9	22.4	20.6	21.7
40MHz	18.8	20.7	19.4	17.8	18.7
50MHz	17.1	19.1	17.6	16.2	17.2
60MHz	16.0	18.1	16.6	15.2	16.2
80MHz	16.0	18.2	16.3	15.3	16.3
3-4:					
30MHz	22.8	21.4	24.0	20.8	19.3
40MHz	19.8	18.5	20.8	18.0	16.5
50MHz	18.1	16.9	19.0	16.4	14.9
60MHz	17.1	15.9	17.9	15.4	13.9
80MHz	17.3	15.7	17.4	15.3	13.5
5-6:					
30MHz	20.6	22.9	25.2	22.5	23.2
40MHz	17.7	19.9	21.9	19.5	20.1
50MHz	16.1	18.3	20.2	17.8	18.4
60MHz	15.1	17.1	19.0	16.7	17.2
80MHz	14.8	16.9	18.4	16.6	17.0
7-8:					
30MHz	27.2	22.4	26.6	22.6	23.9
40MHz	23.6	19.3	23.0	19.5	20.7
50MHz	21.8	17.7	21.2	17.9	19.1
60MHz	20.5	16.5	19.7	16.8	17.9
80MHz	19.4	16.3	18.5	16.8	17.9
Cross Talk:					
-40dB Min (0.5-60MHz)					
-35dB Min (60-80MHz)					
1-2 TO 3-4:					
30MHz	46.4	48.3	47.3	48.8	45.6
60MHz	40.3	41.2	43.2	42.2	41.3
100MHz	35.8	36.3	40.3	38.3	35.7
3-4 TO 5-6:					
30MHz	48.3	47.3	49.3	45.5	48.2
60MHz	42.2	42.6	45.2	41.3	46.3
100MHz	41.0	40.3	39.3	39.3	43.5

### MAIN TEST EQUIPMENT

- CHANGCHUANG CC2670 WITHSTANDING VOLTAGE TESTER
- JINKAITAI 3250 AUTOMATIC TRANSFORMER TEST SYSTEM
- TONGHUI TH2818 AUTOMATIC TRANSFORMER TEST SYSTEM
- RF NETWORK ANALYZERS 8712ET





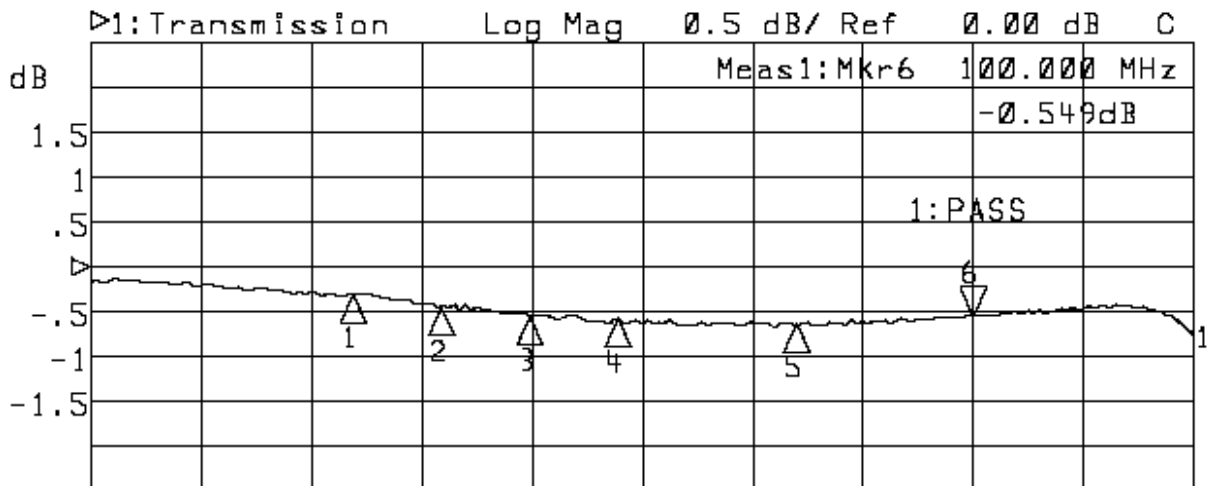
# Mingtek Technology Corp.

## SAMPLE TEST DATA

P/N:HN18101CG

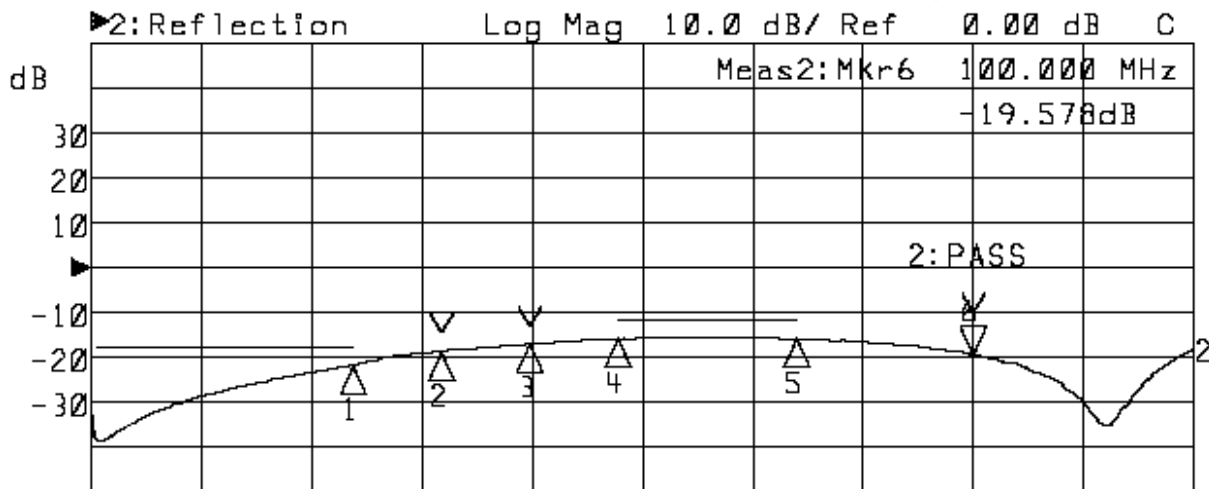
NO:01

Insertion Loss and Return Loss (TX1)



Start 0.300 MHz

Stop 125.000 MHz



Start 0.300 MHz

Stop 125.000 MHz

1: Mkr (MHz)	dB	2: Mkr (MHz)	dB
1: 30.0000	-0.306	1: 30.0000	-21.772
2: 40.0000	-0.440	2: 40.0000	-18.807
3: 50.0000	-0.543	3: 50.0000	-17.106
4: 60.0000	-0.582	4: 60.0000	-16.083
5: 80.0000	-0.624	5: 80.0000	-16.092
6> 100.0000	-0.549	6> 100.0000	-19.578



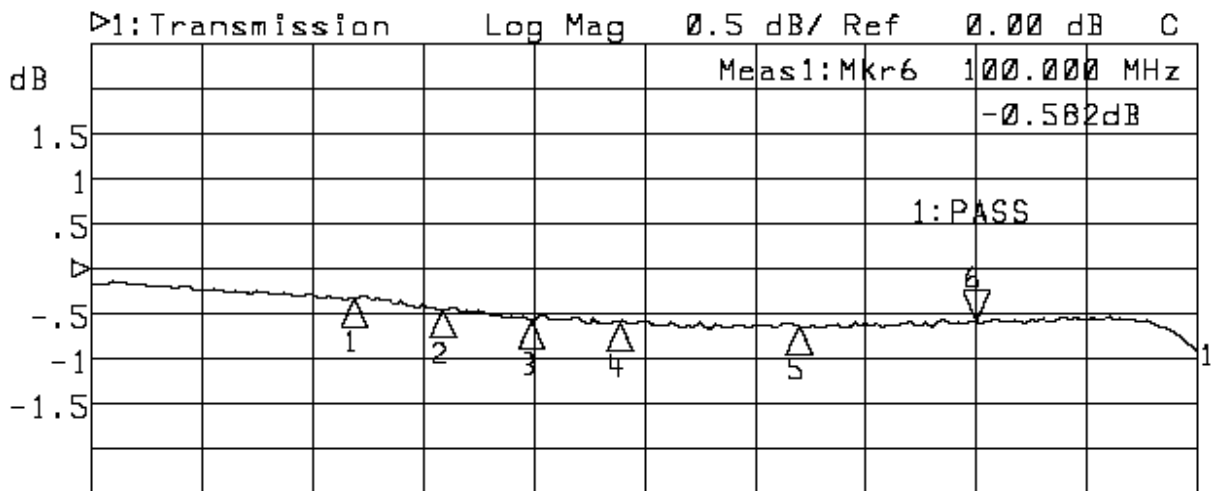
# Mingtek Technology Corp.

## SAMPLE TEST DATA

P/N:HN18101CG

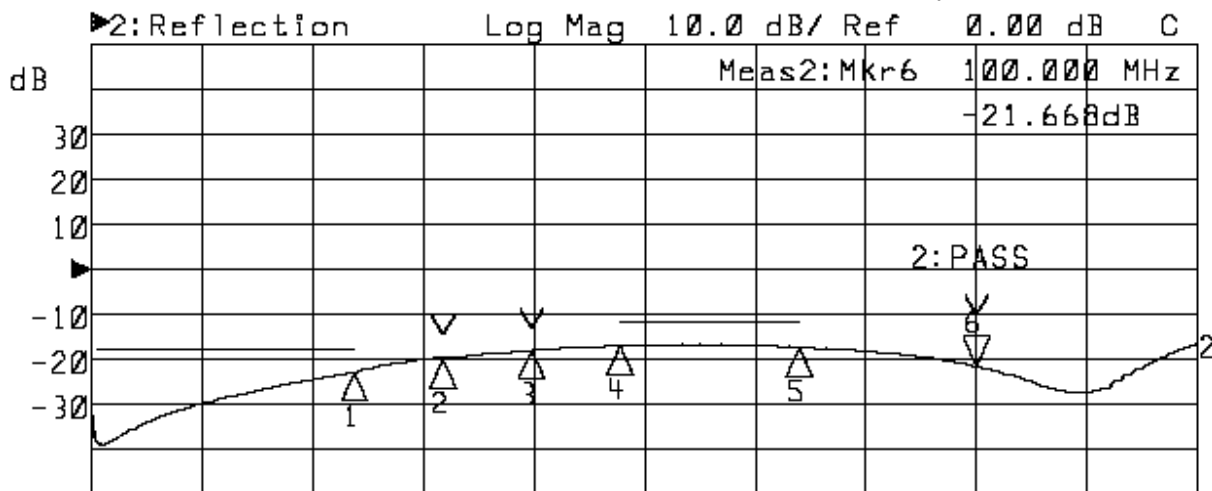
NO:01

Insertion Loss and Return Loss (TX2)



Start 0.300 MHz

Stop 125.000 MHz



Start 0.300 MHz

Stop 125.000 MHz

1: Mkr (MHz)	dB	2: Mkr (MHz)	dB
1: 30.0000	-0.323	1: 30.0000	-22.898
2: 40.0000	-0.460	2: 40.0000	-19.804
3: 50.0000	-0.565	3: 50.0000	-18.195
4: 60.0000	-0.592	4: 60.0000	-17.163
5: 80.0000	-0.629	5: 80.0000	-17.359
6> 100.0000	-0.582	6> 100.0000	-21.668



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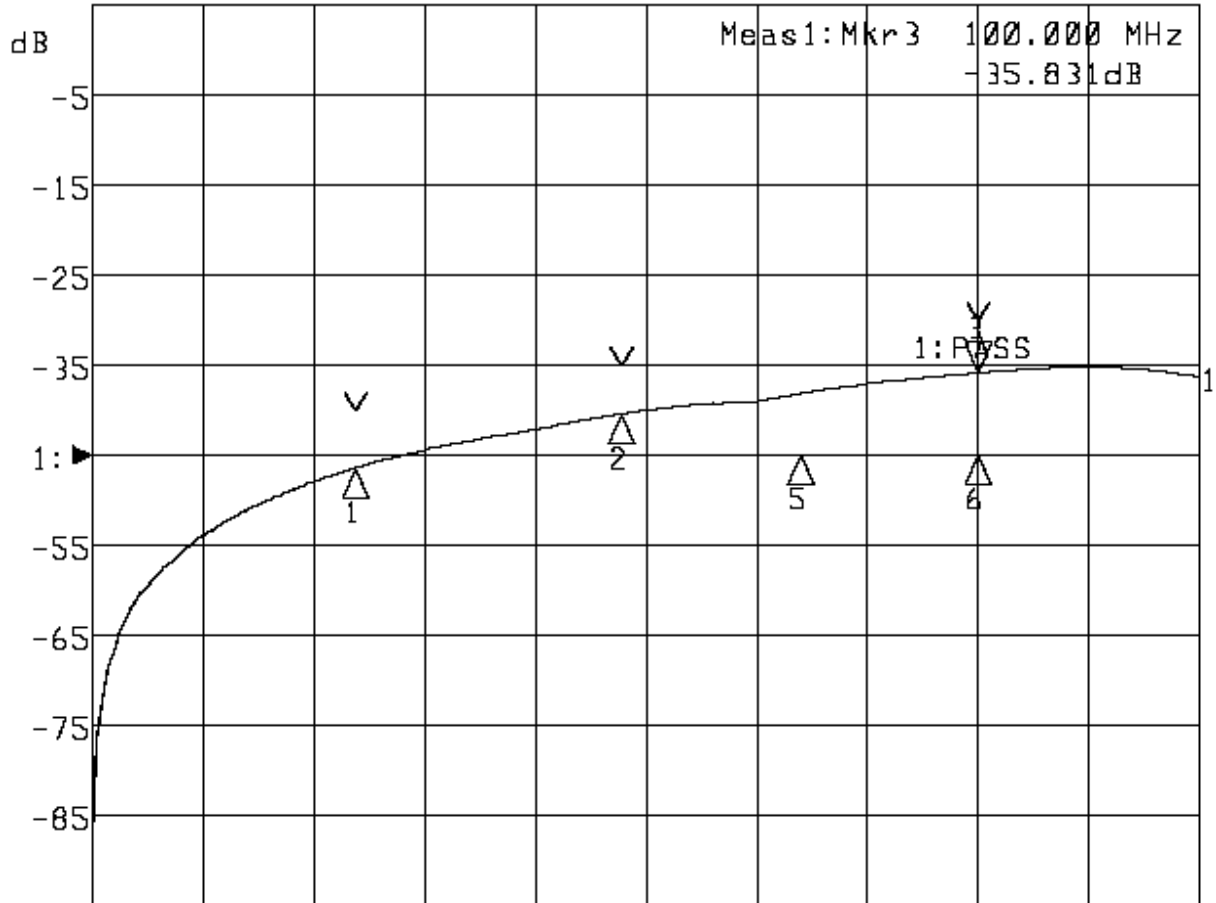
## SAMPLE TEST DATA

P/N:HN18101CG

NO:01

Cross Talk(TX1 TO TX2):

►1:Transmission      Log Mag    10.0 dB/ Ref -45.00 dB    C  
▷2:Off



Start 0.300 MHz

Stop 125.000 MHz

1: Mkr (MHz)	dB	2: Mkr (MHz)	dB
1: 30.0000	-46.406		
2: 60.0000	-40.387		
3> 100.0000	-35.831		



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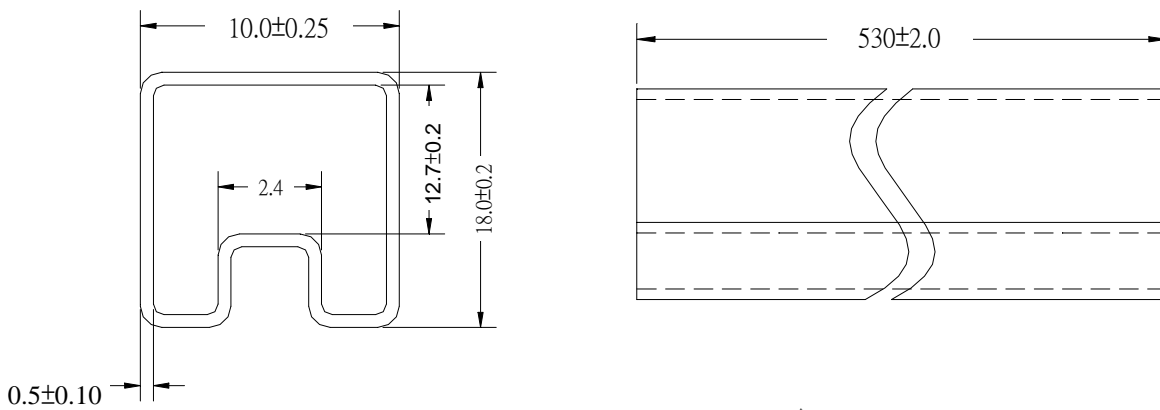
## SAMPLE TEST DATA

### **H. PACKAGE CRITERION:**

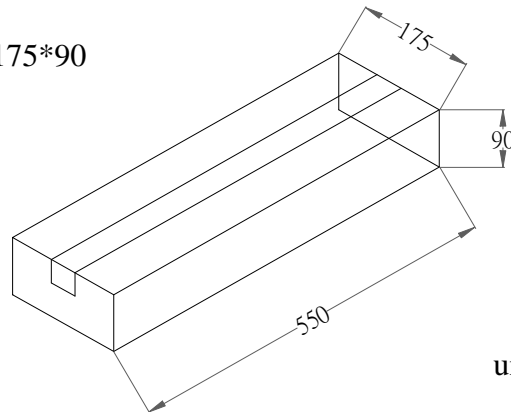
#### 1.PACKAGE MATERIAL:

1.1 Tube: 530\*10.0\*18.0

units: m/m

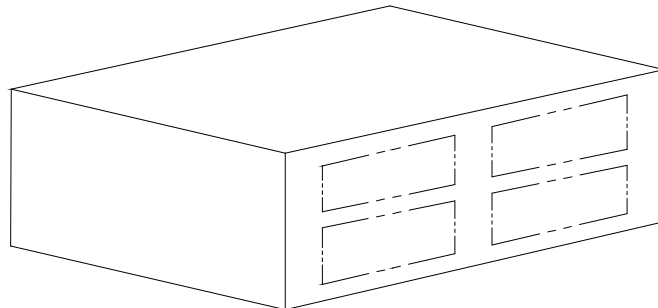


1.2.Inner Carton: 550\*175\*90



units: m/m

1.3.Export Carton: 560\*375\*205



#### 2.PACKAGE QUANTITY:

One Tube=30Pcs

One Inner carton =1200Pcs

One Export carton =4800Pcs



變壓器的絕緣體與耐壓值測試表

項目	內容	規格值	實測值
1.	外觀 Appearance	依規範	良
2.	導體徑 mm Bare Wire Dia	+ 0.008-0.008	0.09
3.	完成外徑 mm Overall Dia	0.117-0.136	0.128
4.	針孔 (常態) Pin Hole (Normal State)	03 MAX	0
5.	針孔 (捲繞, 伸長 5%) Pin Hole (Elongated)	無龜裂	符合
6.	絕緣破壞電壓 V Dielectric Strength AC	4000 MIN	10000
7.	伸長率 % Elongation	25 MIN	38
8.	導體電阻 20°C Ω / km Conductor Resistance	2900.000 MAX	2750.000
9.	直焊性 (400°C) sec Solderability	2.0 MAX	0.7
10.	耐軟性 (200°C) 以上 Thermoplastic Flow	無短路	符合
11.	耐熱衝擊 (150°C) Heat Shock	無龜裂	符合
12.	密著性 Adtience	無龜裂	符合
13.	耐溶性 Resistance to Solvent	無龜裂	符合
14.	接著力 g Bonding Strength Test	-----	-----
15.	溶解性 % Solution Test	-----	-----

\*針腳.腳面之上錫功能測試

1. 上錫條件

錫材：Sn99.3/cu 0.7

助焊劑：R Type Flux

錫爐溫度：245 ± 5°C

上錫時間：5 秒

2. 在每批產品中隨機抽取5只做上錫功能測試

3. 用顯微鏡檢查每只產品的任一針腳必須有 95 % 以上的面積上錫良好

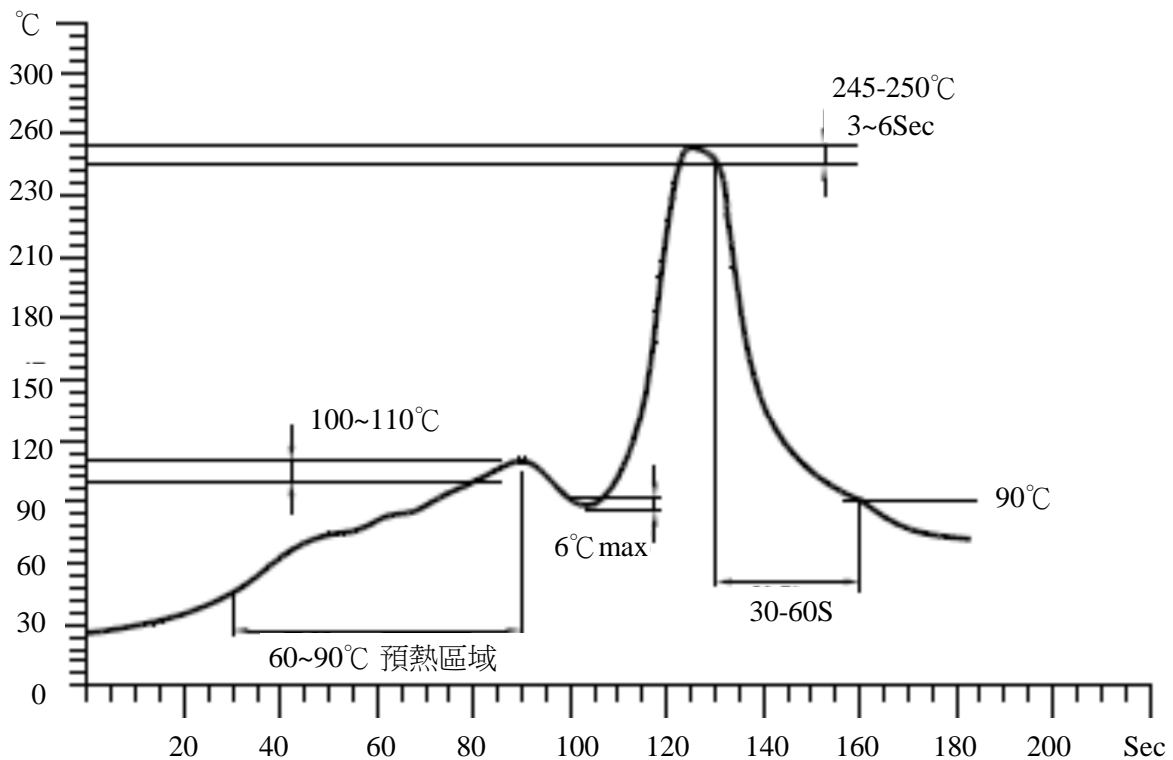
4. 每個經上錫測試後的產品都要測試通過後才能出貨

## SAMPLE TEST DATA

H: DIP無鉛產品波峰焊溫度曲線圖:

一.無鉛制程焊接條件:

1. 適用產品型號: 所有DIP類產品
2. 焊接方式: 波峰焊
3. 焊接溫度曲線(如下):



注:以上溫度曲線僅供參考