MAG.LAYERS Scientific- Technics Co., Ltd.

TFI-160805-22NG
Reliability Report

TEL：886-3-5972488
Fax ：886-3-5972477
http：//www.maglayers.com.tw

DESCRIPTION

1. Mag.Layers Co., Ltd. is executing the testing process seriously, All the test data is attached.
2. To use the report in whole, can't be separated.
3. The report can't be used by other way.
4. The report is in vain when separately.
5. Please see the attached data for comparision and reference.

TEST RESULT

No.	TEST ITEM	TEST RESULT〔P/R〕
1	THERMAL SHOCK	PASS
2	HUMIDITY RESISTANCE	PASS
3	HIGH TEMPERATURE RESISTANCE	PASS
4	LOW TEMPERATURE RESISTANCE	PASS
5	PRODUCTS STRENGTH	PASS
6	REFLOW	PASS
7	VIBRATION	PASS
8	MTBF	PASS

CONTENTS

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ENVIRONMENT TEST DATA

TEST ITEM	THERMAL SHOCK							
TEST P/N	TFI-160805-22NG							
TEST CONDITION	TEMPERATURE CYCLES -40℃ THEN +85℃ FOR 30 MINUTES EACH. CYCLES : 100							
THE PERIOD OF TEST	FROM Jan 09, 2006 PM1: 00 TO Jan 15, 2006 PM4: 30							
DATA BEFORE TEST			DATA AFTER TEST			VARIATION(%)		REMARK
SAMPLE	L(nH)		SAMPLE	L(nH)		L(nH)		DESCRIPTION
1	22.1		1	22.4		1.36%		1-10pcs
2	21.9		2	22.1		0.91%		
3	22.1		3	22.3		0.90%		
4	21.7		4	21.6		-0.55%		
5	21.8		5	21.9		0.46%		
6	22.4		6	21.8		-2.68%		
7	22.3		7	22.1		-0.72%		
8	21.6		8	21.8		0.93%		
9	22.0		9	22.4		1.82%		
10	22.2		10	22.4		0.95%		
11			11			#DIV/0!		
12			12			#DIV/0!		
13			13			#DIV/0!		
14			14			#DIV/0!		
15			15			#DIV/0!		
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19			19			#DIV/0!		
20			20			#DIV/0!		
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22			22			#DIV/0!		
23			23			#DIV/0!		
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25			25			#DIV/0!		
26			26			#DIV/0!		
27			27			#DIV/0!		
28			28			#DIV/0!		
29			29			#DIV/0!		
30			30			#DIV/0!		

REMARK The value of L should be within ±10%

TEST RESULT: PASS (The value of L all within ±10%)

Approved: *Miin* Prepared : *Kinway*

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ENVIRONMENT TEST DATA

TEST ITEM	HUMIDITY RESISTANCE							
TEST P/N	TFI-160805-22NG							
TEST CONDITION	40℃ 、95%RH FOR 1000 HOURS							
THE PERIOD OF TEST	FROM Jan 23, 2006 PM 5:30 TO Mar 06, 2006 AM 8:30							
DATA BEFORE TEST			DATA AFTER TEST			VARIATION(%)		REMARK
SAMPLE	L(nH)		SAMPLE	L(nH)		L(nH)		DESCRIPTION
1	22.4		1	22.3		-0.49%		11-20pcs
2	22.2		2	21.8		-1.94%		
3	21.9		3	22.2		1.28%		
4	21.8		4	21.7		-0.46%		
5	22.1		5	21.9		-0.90%		
6	22.1		6	22.0		-0.59%		
7	22.2		7	21.9		-1.35%		
8	22.0		8	22.4		1.59%		
9	21.9		9	22.2		1.37%		
10	21.8		10	21.9		0.46%		
11			11			#DIV/0!		
12			12			#DIV/0!		
13			13			#DIV/0!		
14			14			#DIV/0!		
15			15			#DIV/0!		
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17			17			#DIV/0!		
18			18			#DIV/0!		
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20			20			#DIV/0!		
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26			26			#DIV/0!		
27			27			#DIV/0!		
28			28			#DIV/0!		
29			29			#DIV/0!		
30			30			#DIV/0!		

REMARK The value of L should be within ±10%

TEST RESULT: PASS (The value of L all within ±10%)

Approved: *Miin* Prepared : *Kinway*

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ENVIRONMENT TEST DATA

TEST ITEM	HIGH TEMPERATURE RESISTANCE							
TEST P/N	TFI-160805-22NG							
TEST CONDITION	85℃ FOR 1000 HOURS							
THE PERIOD OF TEST	FROM Feb 08, 2006 PM5: 30 TO Mar 22, 2006 AM8:30							
DATA BEFORE TEST			DATA AFTER TEST			VARIATION(%)		REMARK
SAMPLE	L(nH)		SAMPLE	L(nH)		L(nH)		DESCRIPTION
1	21.9		1	22.3		1.83%		21-30pcs
2	22.0		2	22.4		1.59%		
3	21.7		3	21.8		0.65%		
4	22.4		4	22.0		-1.74%		
5	22.0		5	21.9		-0.45%		
6	22.0		6	22.3		1.14%		
7	22.3		7	22.4		0.45%		
8	22.3		8	22.0		-1.12%		
9	21.7		9	21.8		0.46%		
10	21.5		10	22.1		2.79%		
11			11			#DIV/0!		
12			12			#DIV/0!		
13			13			#DIV/0!		
14			14			#DIV/0!		
15			15			#DIV/0!		
16			16			#DIV/0!		
17			17			#DIV/0!		
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20			20			#DIV/0!		
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29			29			#DIV/0!		
30			30			#DIV/0!		

REMARK The value of L should be within ±10%

TEST RESULT: PASS (The value of L all within ±10%)

Approved: *Miin* Prepared : *Kinway*

FORM NO : QKR032-D

MAG. LAYERS Scientific-Technics Co., Ltd.
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ENVIRONMENT TEST DATA

TEST ITEM	LOW TEMPERATURE RESISTANCE							
TEST P/N	TFI-160805-22NG							
TEST CONDITION	-40℃ FOR 1000 HOURS							
THE PERIOD OF TEST	FROM Mar 01, 2006 PM5:30 TO Apr 12, 2006 AM 8:30							
DATA BEFORE TEST			DATA AFTER TEST			VARIATION(%)		REMARK
SAMPLE	L(nH)		SAMPLE	L(nH)		L(nH)		DESCRIPTION
1	22.1		1	22.2		0.23%		31-40PCS
2	22.1		2	22.3		0.81%		
3	22.0		3	22.3		1.36%		
4	21.3		4	20.8		-2.35%		
5	21.9		5	21.7		-0.91%		
6	21.7		6	21.6		-0.46%		
7	21.5		7	21.6		0.47%		
8	22.2		8	21.9		-1.13%		
9	21.7		9	21.6		-0.28%		
10	22.1		10	22.4		1.36%		
11			11			#DIV/0!		
12			12			#DIV/0!		
13			13			#DIV/0!		
14			14			#DIV/0!		
15			15			#DIV/0!		
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18			18			#DIV/0!		
19			19			#DIV/0!		
20			20			#DIV/0!		
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26			26			#DIV/0!		
27			27			#DIV/0!		
28			28			#DIV/0!		
29			29			#DIV/0!		
30			30			#DIV/0!		

REMARK The value of L should be within ±10%

TEST RESULT: PASS (The value of L all within ±10%)

Approved: *Miin* Prepared : *Kinway*

FORM NO : QKR032-D

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PRODUCTS STRENGTH TEST DATA

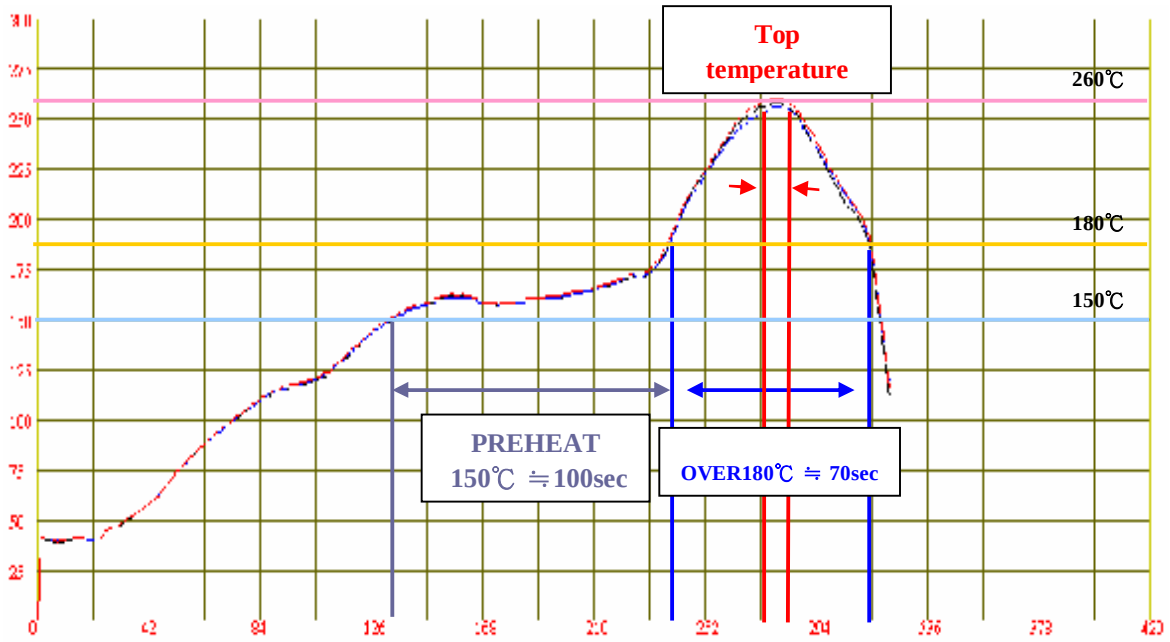
TEST P/N	TERMINAL STRENGTH			BENDING STYENGTH			TEST RESULT		REMARK
							PASS	FAIL	
TFI-160805-22NG	1.9	1.6	2.3	2.3	2.5	2.4	PASS		UNIT：KGF
	1.8	2		2.4	2.3				

Approved *Miin* Prepared *May*

FORM NO : QKR031-C

REFLOW 260℃

IR REFLOW 260℃ (260℃ ± 5℃/Time max 10sec)



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ENVIRONMENT TEST DATA

TEST ITEM	VIBRATION TEST							
TEST P/N	TFI-160805-22NG							
TEST CONDITION	2HRS EACH IN X,Y,AND Z DIRECTIONS TOTAL : 6HRS							
THE PERIOD OF TEST	FROM Jan 14, 2006 AM9:00 TO Jan 14, 2006 PM6:00							
DATA BEFORE TEST			DATA AFTER TEST			VARIATION(%)		REMARK
SAMPLE	Electric conductivity	Apparent	SAMPLE	Electric conductivity	Apparent			DESCRIPTION
30 PCS	OK	OK	30PCS	OK	OK			The Data of Frequency as attached

REMARK Electric Conductivity and Apparent all are no NG

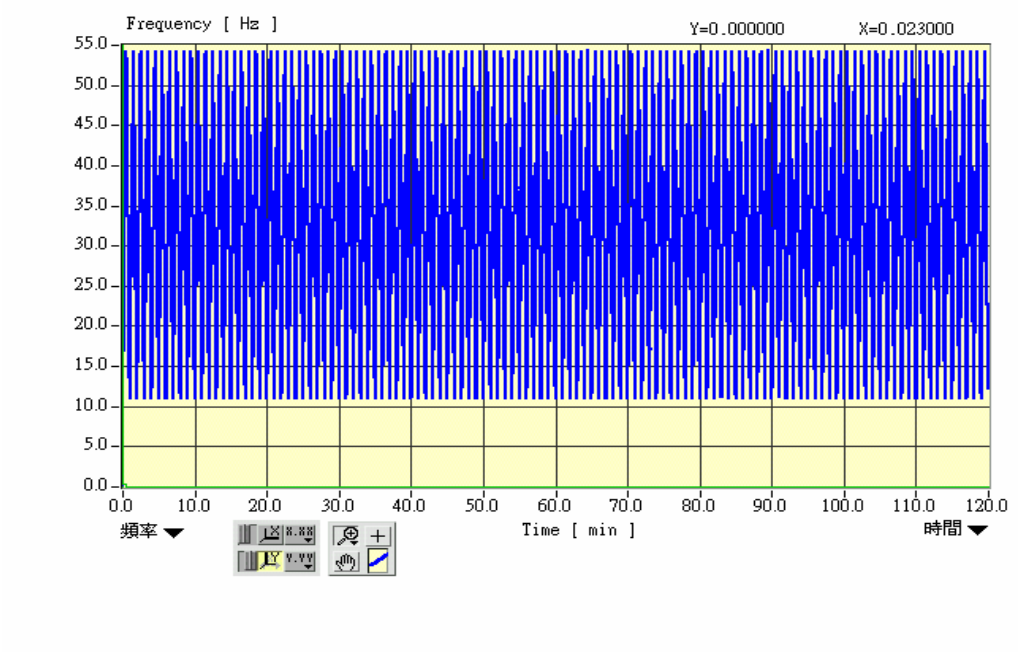
TEST RESULT PASS

Approved: *Miin* Prepared : *Kinway*

FORM NO : QKR032-D

VIBRATION TEST REPORT

1.Company Name：MAG. LAYERS Scientific-Technics Co., Ltd.
2. Date：Jan 14, 2006
3.Lot No.：Experimentation
4.TIME：PM 06:14:13
5.Test type：Vibration Test
6.Test time：120.0min
7.The beginning of Frequency：10.0Hz
8.Vibration Mode：Linear Vibration Frequency test
9.The ending of Frequency：55.0Hz
10.The amplitude of vibration：1.5mm
11.Cycle times：120.0cycles
12.Test times：1.0min/cycle
13.Vibrate times：3.510E+5cycles
14.Test Part No.：TFI-160805-22NG



TESTER：kinway TEST RESULT：OK

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ENVIRONMENT TEST DATA

TEST ITEM	HIGH TEMPERATURE RESISTANCE							
TEST P/N	TFI-160805-22NG							
TEST CONDITION	85℃ FOR 1000 HOURS WITH CURRENT300mA)							
THE PERIOD OF TEST	FROM Feb 08, 2006 PM5: 30 TO Mar 22, 2006 AM8:30							
DATA BEFORE TEST			DATA AFTER TEST			VARIATION(%)		REMARK
SAMPLE	L(nH)		SAMPLE	L(nH)		L(nH)		DESCRIPTION
1	22.1		1	22.31		0.77%		41-70PCS
2	21.8		2	21.96		0.73%		
3	22.4		3	22.01		-1.74%		
4	21.7		4	22.15		2.07%		
5	21.8		5	22.17		1.70%		
6	22.4		6	22.13		-1.21%		
7	21.8		7	22.02		1.06%		
8	22.2		8	21.96		-1.13%		
9	21.7		9	21.86		0.74%		
10	21.9		10	21.88		-0.09%		
11	22.1		11	22.21		0.32%		
12	22.2		12	21.86		-1.53%		
13	22.0		13	21.59		-1.86%		
14	21.9		14	21.86		-0.18%		
15	22.0		15	22.34		1.73%		
16	21.9		16	22.25		1.60%		
17	22.3		17	22.42		0.76%		
18	22.4		18	22.14		-1.16%		
19	22.4		19	22.08		-1.21%		
20	22.0		20	21.96		-0.18%		
21	22.0		21	22.36		1.64%		
22	22.3		22	21.98		-1.43%		
23	21.6		23	21.99		1.81%		
24	21.6		24	21.59		-0.05%		
25	21.9		25	22.08		0.82%		
26	21.6		26	22.14		2.50%		
27	22.1		27	21.82		-1.22%		
28	22.0		28	21.86		-0.64%		
29	21.7		29	21.88		0.83%		
30	21.9		30	22.36		2.10%		

REMARK: The value of L should be within ±10%
TEST RESUL PASS (The value of L all within ±10%)

Approved: *Miin* Prepared : *Kinway*

FORM NO : QKR032-D

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SAMPLES P/N	TFI-160805-22NG	TEST CONDITION				
TESTED SAMPLES	30 PCS.	• ■ Operate TEMP(T1)：	25 ℃	Test Times	START	2006/02/08
		• ■ Hasten TEMP(T2)：	85 ℃			
TEST HRS	1000 HRS	• ■ Operate CURRENT(A1	250 mA		FINISHED	2006/03/22
		• ■ Hasten CURRENT(A2	300 mA			

PRODUCT SPECIFICATION & FAILURE DEFINITION	TEST RESULT		
ΔL/L within ± 5 %	• TEST RESULT =	PASS	
	• A.F =（A2/A1）^ 3 * 2 ^（(T2-T1) / 10）=	110.59	
	• TOTAL TEST HRS =	3,317,760	HRS.
	• FIT(Failure In Time) =	693.24	(Failure / 10^9 Hrs)
	• CONFIDENT LEVEL 90% MTTF=	1,442,504	HRS.

TEST PROCEDURE INTERPREATATION：

1.The life test is not reach 10% failure

2. r= 0 pcs

r	TIME (HRS)	r	TIME (HRS)
r1		r6	
r2		r7	
r3		r8	
r4		r9	
r5		r10	

TEMP.	25	℃
R. H.	60	%

APPROVED BY： Miin

PREPARED BY： Kinway