

# Li98 Reliability Testing Report

## 1. RA test

### Procedure

Tested for thermal resistance using a ASTM D5470 at different condition (room temperature, aging 80 °C, HAST and thermal shock).

**1.1 Room temperature @ 25°C**

**1.2 Thermal Aging @ 80°C (200 hrs, 400 hrs, 700 hrs, 1000 hrs)**

**1.3 Thermal HAST @ 85°C/85%RH (200 hrs, 400 hrs, 700 hrs, 1000 hrs)**

**1.4 Thermal Cycling @ -40°C to 120°C for 500 cycles (100 cycles, 200 cycles, 300 cycles, 400 cycles, 500 cycles)**

During testing and aging, the samples were maintained between two round aluminum disks of one square inch in surface area.

During Aging, clamps were used to hold a constant pressure on the sample.

## Results

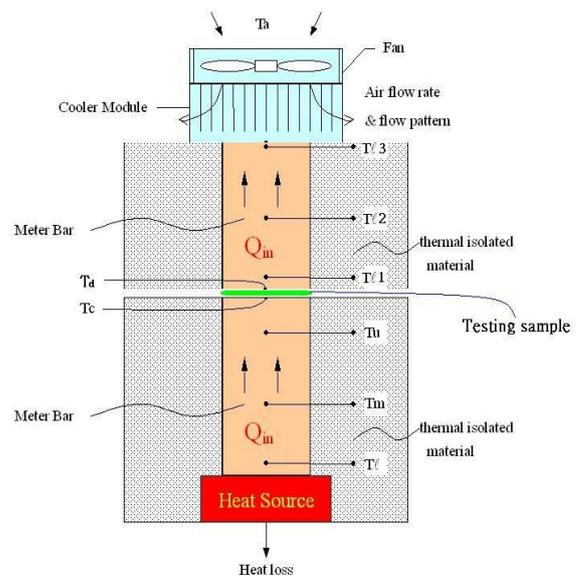
Code/(Unit : °C-in <sup>2</sup> /W)	0 hr	200 hrs	400 hrs	700 hrs	1000 hrs
Room temperature	0.931	-	-	-	-
Thermal Aging	0.931	0.936	0.935	0.939	0.937
Thermal HAST	0.931	0.933	0.937	0.935	0.934

Code/(Unit : °C-in <sup>2</sup> /W)	100 cycles	200 cycles	300 cycles	400 cycles	500 cycles
Thermal Cycling	0.938	0.941	0.939	0.937	0.941

**Test method : ASTM D5470**

**Heat power : 30W**

**Specimen Area: 1 inch<sup>2</sup>**



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## 2. Peel Adhesion Test

### Procedure

Adhere the specimen to the testing aluminum plate. (under 2kg roll)

Wait for 72 hrs at room temperature.

**2.1 Room temperature @ 25°C**

**2.2 Thermal Aging @ 80°C (200 hrs, 400 hrs, 700 hrs, 1000 hrs)**

**2.3 Thermal HAST @ 85°C/85%RH (200 hrs, 400 hrs, 700 hrs, 1000 hrs)**

**2.4 Thermal Cycling @ -40°C to 120°C for 500 cycles (100 cycles, 200 cycles, 300 cycles, 400 cycles, 500 cycles)**

Secure the end of the plate furthest away from the tab to the moving grip.

Begin peeling the tape at a 90 degree by moving the plate at the specified rate.

Record the average force required for peeling.

## Results

Code/(Unit : N/inch)	0 hr	200 hrs	400 hrs	700 hrs	1000 hrs
Room temperature	16.5	-	-	-	-
Thermal Aging	16.5	16.9	16.8	16.6	16.9
Thermal HAST	16.5	16.7	16.6	16.7	17.1

Code/(Unit : N/inch)	100 cycles	200 cycles	300 cycles	400 cycles	500 cycles
Thermal Cycling	15.2	15.4	15.6	15.8	15.3

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## 3. Static Shear Test

### Procedure:

PSTC-7 for adhesively bonded test

### Results

Code	Room temperature @ Holding 1000 g	80°C @ Holding 1000 g
0.15 mm	>40000 min	>10000 min

### Note:

The data for design engineer guidance only.

Engineers are reminded to test the material in varies application.