Ti900 Reliability Testing Report

1. RA test

Procedure

Tested for thermal resistance using a ASTM D5470 at different condition (room temperature, aging 125℃, HAST, Frozen and thermal shock).

1.1 Room temperature @ 25°C

1.2 Thermal Aging @ 125°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)

1.5 Thermal Frozen @ -60°C (200 hrs, 400 hrs, 700 hrs, 1000 hrs)

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

Results

Code/(Unit :℃-in^2/W)	0 hr	200 hrs	400 hrs	700 hrs	1000 hrs
Room temperature	0.314	-	-	-	-
Thermal Aging	0.314	0.315	0.315	0.314	0.315
Thermal HAST	0.314	0.314	0.315	0.314	0.314
Thermal Frozen	0.314	0.315	0.315	0.315	0.314

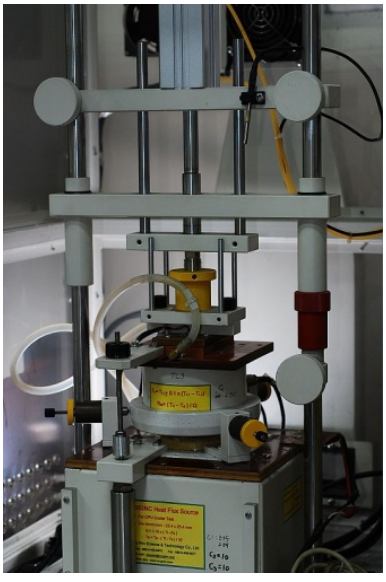
Code/(Unit :℃-in^2/W)	100 cycles	200 cycles	300 cycles	400 cycles	500 cycles
Thermal Cycling	0.315	0.314	0.315	0.314	0.315

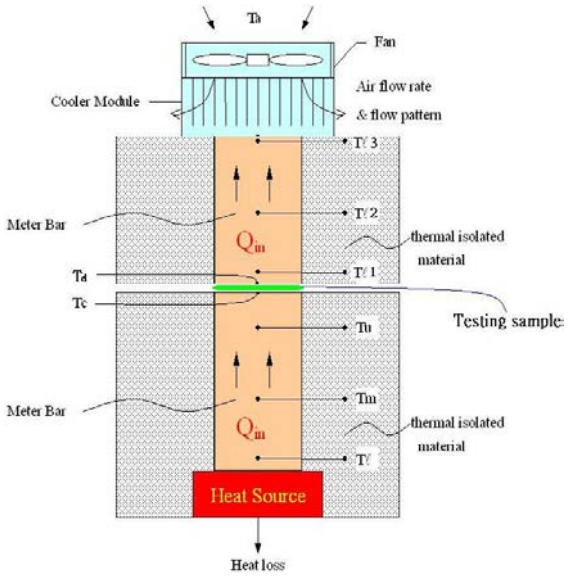
Test method: ASTM D5470

Pressure: 50 psi

Specimen thickness: 0.15 mm, n=5

Specimen area: 1 inch^2





Ti900 Reliability Testing Report

2. Breakdown Voltage Test

Procedure

Tested for Breakdown Voltage Test using a ASTM D149 at different condition (room temperature, aging 125℃, HAST,Frozen and thermal shock).

2.1 Room temperature @ 25°C

2.2 Thermal Aging @ 125°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)

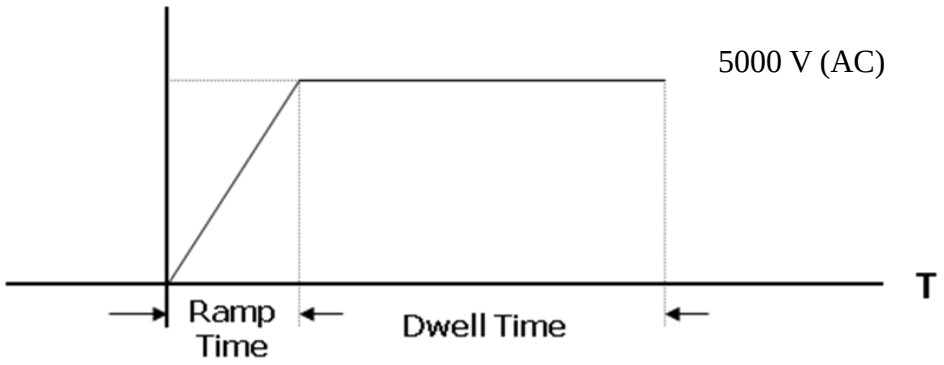
2.4 Thermal Cycling @ -40°C to 120°C for 500 cycles (100 cycles, 200 cycles, 300 cycles, 400 cycles, 500 cycles)

2.5 Thermal Frozen @ -60°C (200 hrs, 400 hrs, 700 hrs, 1000 hrs)

Results

High pot (AC @ kV)	0 hr	200 hrs	400 hrs	700 hrs	1000 hrs
Room temperature	>5	-	-	-	-
Thermal Aging	>5	>5	>5	>5	>5
Thermal HAST	>5	>5	>5	>5	>5
Thermal Frozen	>5	>5	>5	>5	>5

High pot (AC @ kV)	100 cycles	200 cycles	300 cycles	400 cycles	500 cycles
Thermal Cycling	>5	>5	>5	>5	>5



Ramp time: 20 sec / Dwell time: 60 sec / Max Voltage: 5000 V (AC)

Note:

The data for design engineer guidance only. Observed performance varies in application.
Engineers are reminded to test the material in application.