Floor life Test of SMT Header

1.1. Purpose

Testing was performed on the TE Connectivity (TE) SMT header to indicate if the allowable time period (floor life) after removal parts from moisture-barrier bag can be up to 1 year in condition of ≤ 30°C, ≤ 60% RH per JEDEC J-STD-020. The floor life only relates to moisture/reflow related failures and does not take into consideration other failure mechanisms or “shelf life” issues due to long term storage.

1.2. Scope

This report covers the environmental performance of TE Connectivity (TE) SMT header.Testing was performed at the Shanghai Electrical Components Test Laboratory. Original report number is TP-23-01225-RECORD & TP-23-03400-RECORD.

1.3. Conclusion

All part numbers listed in Paragraph 1.5 passed this test which mean the floor life can be up to 1 year in condition of ≤ 30℃, ≤ 60% RH.

1.4. Product Description

SMT header with two different resin PA4T & PA10T.

1.5. Test Specimens

Test Set	Quantity	Part Number	Description
1	22	2-2232829-0	SGI2.0 HEADER ASSEMBLY SMT, 10P (Resin PN: 2136398-1,PA4T)
	22	2-2232829-0	SGI2.0 HEADER ASSEMBLY SMT, 10P (Resin PN: 2136867-3, PA10T)
	22	1-2336678-3	SGI2.0 RA SMT header 3P,key A, Natural (Resin PN: 1573851-1, PA4T)
	22	2360538-9	SGI 1.25 RA SMT header 9P, Key A, Natural (Resin PN: 2136398-1, PA4T)
	22	2-2376974-0	SGI 1.25 vertical SMT header 20P, Key A, Natural (Resin PN: 2136398-1, PA4T)
	22	2365497-6	EP2.5 single row SMT header,GWT,6P (Resin PN: 1573851-1, PA4T)

Figure 1

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1.6. Test Sequence

Test or Examination	Test Groups (a)
	1
	Test Sequence (b)
Initial examination of product	1
Dry Heat	2
Damp Heat Steady State	3
Resistance to Soldering Heat	4
Final Examination of Product	5

NOTE
a) See Paragraph 1.5.
b) Numbers indicate sequence in which tests shall be performed.

Figure 2

1.7. Environmental Conditions

Unless otherwise stated, the following environmental conditions prevailed during testing:

- Temperature: 15°C to 35°C
- Relative Humidity: 20% to 80%

2. SUMMARY OF TESTING

All specimens passed reflow soldering without blister after storing in environmental of 85℃,60%RH for 168hours.

Test Group	Test Item	Quantity	Test Condition	Requirement	Conclusion
1	Initial examination of product	22	No physical damage.	No physical damage.	Meet Spec.
	Dry Heat		125 ℃, 24H	No physical damage.	Meet Spec.
	Damp Heat Steady State		85 ℃, 60%RH,168H	No physical damage.	Meet Spec.
	Resistance to Soldering Heat		Peak temperature:260 +0/-5°C ; 3cycles.	No physical damage.	Meet Spec.
	Final Examination of Product		No physical damage.	No physical damage.	Meet Spec.

Figure 3

3. TEST METHODS

3.1. Initial Examination of Product

Specimens were visually inspected under a stereomicroscope, at a 40x magnification.

Requirement: No evidence of physical damage was visible.

3.2. Dry Heat

Subject specimens to high temperature chamber.

Test Condition: Temperature: 125 ℃, Test duration: 24 hours.

Test Mothod: JEDEC J-STD-020 procedure 8.4.

3.3. Damp Heat Steady State

Subject specimens to Temperature and humidity chamber.

Test Condition: Temperature: 85 ℃, 60%RH, Test duration: 168 hours.

Test Mothod: JEDEC J-STD-020 Table4 level2

3.4. Resistance to Soldering Heat

Perform reflow soldering process in Shanghai Electrical Components Test Laboratory.

Peak temperature: 260 +0/-5°C ;

Reflow: 3 cycles.

Requirement: No physical damage.

Test Method: : JEDEC J-STD-020

3.5. Final Examination of Product

Specimens were visually examined under a stereomicroscope, at a 40x magnification for evidence of physical damage detrimental to product performance.