



**INSPECTION • ANALYSIS**  
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Attn: Component Testing  
 Group E-mail: component@orslabs.com

## PCB Coupon Analysis Submission Form

Client: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_ P.O. No: \_\_\_\_\_  
 Address: \_\_\_\_\_ Rel No.: \_\_\_\_\_  
 \_\_\_\_\_ Tel.: \_\_\_\_\_  
 E-mail: \_\_\_\_\_  
 ORS Quote No: \_\_\_\_\_  Expedite Service  
 (Surcharge Will Apply)

Board Designation / ID #: \_\_\_\_\_ # of Samples: \_\_\_\_\_  
 Coupon  A/B Coupon Thickness: \_\_\_\_\_  
 Type:  D  Varies

### METHODS OF ANALYSIS

#### Thermal Stress

IPC-TM-650 2.6.27  IPC-TM-650 2.6.8

#### Thermal Shock

IPC-TM-650 2.6.7.2

### TEST REQUIREMENTS

#### Thermal Stress / Convection Re-Flow

Peak Re-flow Simulation Temperature

- 230°C  
 245°C  
 260°C  
 Other \_\_\_\_\_ °C

Ambient Re-flow Simulation Temperature

35°C  45°C

Cycle Quantity: \_\_\_\_\_

Failure criteria (%): \_\_\_\_\_

▶ Default is 5% or N/A for A/B coupons

Solder Float Test Condition (IPC-TM-650,2.6.8)

A  B  C

#### Thermal Shock

Temperature Range: \_\_\_\_\_ °C to \_\_\_\_\_ °C

The high temp extreme shall be the least of the following:

- Material Tg minus 10°C
- Reflow peak temperature minus 25°C
- 210°C

The low temp extreme shall be one of the following:

- -40°C
- -55°C (default)
- -65°C

Cycle Quantity ▶ Default 100 : \_\_\_\_\_

Failure criteria (%): \_\_\_\_\_

▶ Default is 5% or N/A for A/B coupons

Tg of Laminate: \_\_\_\_\_ °C

### A/B Coupons Only:

Cross Sectional Analysis Per IPC-TM-650 2.1.1

#### Return Shipment

UPS:  Red  Blue  Ground

Fed Ex:  Pr. 1  Std.  Econ.

Other:

Acct. #: \_\_\_\_\_

#### Additional Instructions or Restrictions

Request phone consultation upon receipt.

## DESCRIPTION OF TEST METHODS

Thermal Stress, Convection Reflow Assembly Simulation	
IPC-TM-650 Number 2.6.27	Test Paragraph
Conditioning	5.1.1
Reflow Profile	5.2
Default Reflow Profile (260°C)	Table 5-1
Low Temp Reflow Profile (230°C)	Table 5-2
Reflow Profile (245°C)	Table 5-3
Evaluation	5.3
Microsection	5.3.1
Resistance Change	5.3.2/5.3.2.2

Thermal Stress, Plated Through Hole Thermodynamic Stress	
IPC-TM-650 Number 2.6.8	Test Paragraph
Conditioning	5.1
Thermal Shock	5.4
Microsection	5.7.1

Thermal Shock and Continuity	
IPC-TM-650 Number 2.6.7.2	Test Paragraph
Thermal Shock	3.1
Temperature Cycling	6.5.1/6.5.1.1
The high temp extreme shall be the least of the following: <ul style="list-style-type: none"> <li>• Material Tg minus 10°C</li> <li>• Reflow peak temperature minus 25°C</li> <li>• 210°C</li> </ul>	
The low temp extreme shall be one of the following: <ul style="list-style-type: none"> <li>• -40°C</li> <li>• -55°C (default)</li> <li>• -65°C</li> </ul>	
Resistance Change	6.7.1

These test procedures are used exclusively for testing of devices in accordance with the current version of IPC-TM-650

## SOME IMPORTANT REMINDERS

- Please provide a valid Purchase Order and, if requested by your company, a Release Number.
  - Please be sure to specify “Additional Instructions or Restrictions” that should be followed during sample handling, testing or shipment.
  - Unless otherwise requested, test reports will be sent electronically and samples will be returned via UPS Ground.
  - Please refer to the ORS terms and conditions of Quotation and Sale at [www.orslabs.com/terms-conditions-sale](http://www.orslabs.com/terms-conditions-sale).
- All shipping and handling fees associated with the transportation of samples to and from our testing facility, as well as special courier fees for expediting test reports, are the responsibility of the client.
  - On-site visits are encouraged and we welcome your personal involvement during sample analysis.
  - Please contact our sales department for pricing information. (315) 736-5480 X2231 and X4219
  - For technical information, please contact the Component Testing Group at (855) ORS-LABS X4220.