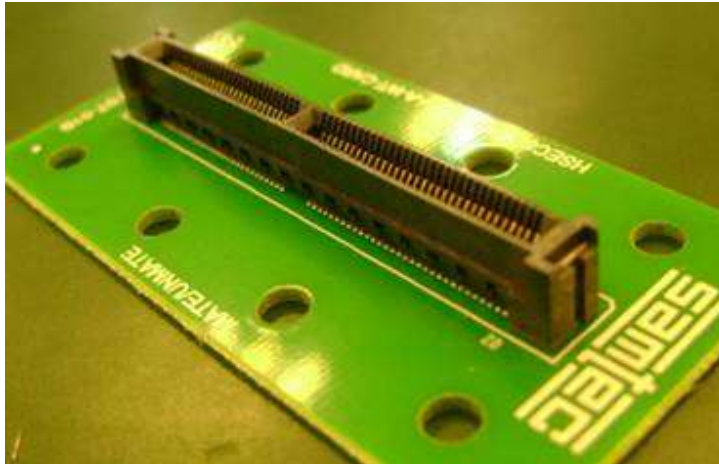
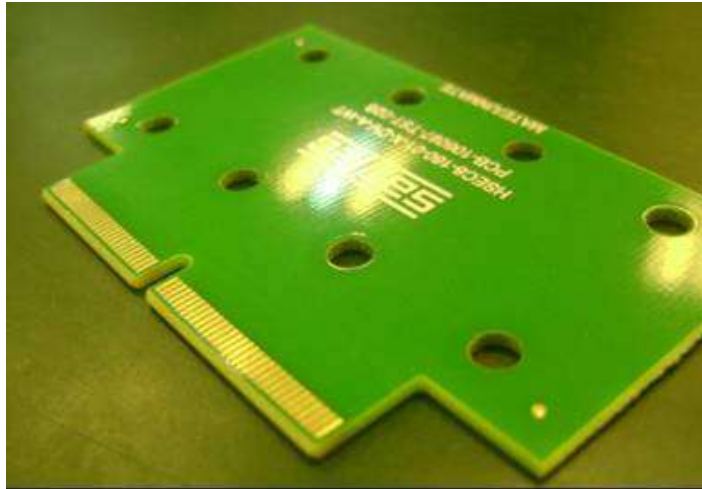




Project Number: Shear Force Test Report	Tracking Code: 299783_Report_Rev_1
Requested by: Jan Niu	Date: 01/8/2014
Part #: HSEC8-125-01-S-DV-A-WT / K/Mating card	Tech: Peter Chen
Part description: HSEC8/Card	Qty to test: 80
Test Start: 01/05/2014	Test Completed: 01/07/2014



## SHEAR FORCE TEST REPORT

### HSEC8/Card

HSEC8-110-01-S-DV-A-WT/K / Mating card

HSEC8-125-01-S-DV-A-WT/K / Mating card

HSEC8-160-01-S-DV-A-WT/K / Mating card

Tracking Code: 299783_Report_Rev_1	Part #: HSEC8-125-01-S-DV-A-WT/K / Mating card
Part description: HSEC8/Card	

**REVISION HISTORY**

<b>DATA</b>	<b>REV.NUM.</b>	<b>DESCRIPTION</b>	<b>ENG</b>
01/07/2014	1	Initial Issue	PC

## CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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### SCOPE

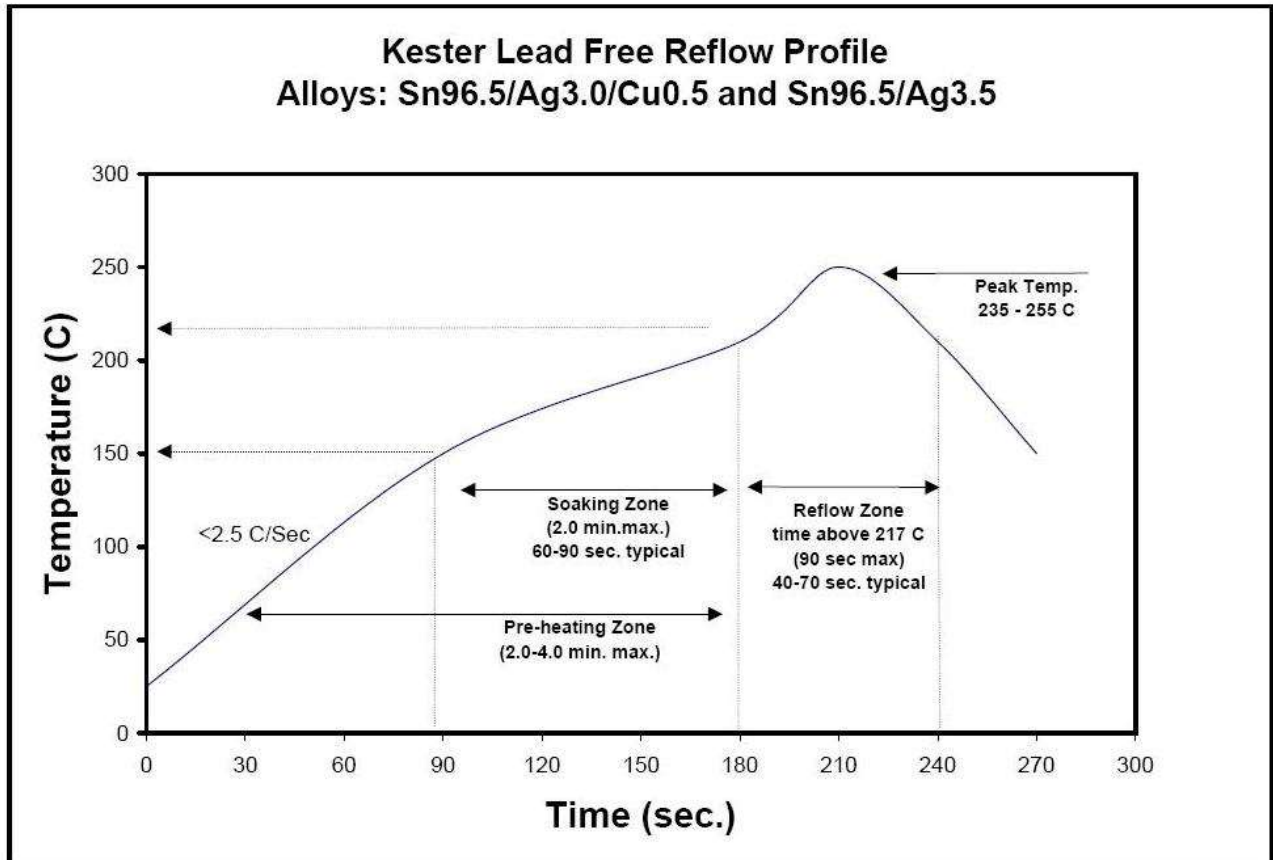
To perform the following tests: solder joint shear force test. Please see test plan.

### APPLICABLE DOCUMENTS

Standards: EIA Publication 364

### TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 4) The automated procedure is used with aqueous compatible soldering materials.
- 5) Any additional preparation will be noted in the individual test sequences.
- 6) Solder Information: Lead free
- 7) Re-Flow Time/Temp: See accompanying profile.

**TYPICAL OVEN PROFILE (Soldering Parts to Test Boards)**

## FLOWCHARTS

### Pull/Shear

Group 1  
HSEC8-110-01-L-DV-A-WT  
EDGE CARD(0.062")  
8 Assemblies

*Note: Push the body to record the maximum shear force with -WT option.*

Step	Description
1.	Connector Shear

Group 2  
HSEC8-160-01-L-DV-A-WT  
EDGE CARD(0.062")  
8 Assemblies

*Note: Push the body to record the maximum shear force with -WT option.*

Step	Description
1.	Connector Shear

Group 3  
HSEC8-125-01-L-DV-A-WT  
EDGE CARD(0.062")  
8 Assemblies

*Note: Push the body to record the maximum shear force with -WT option.*

Step	Description
1.	Connector Shear

Group 4  
HSEC8-110-01-L-DV-A-K  
EDGE CARD(0.062")  
8 Assemblies

*Note: Push the body to record the maximum shear force without -WT option.*

Step	Description
1.	Connector Shear

Group 5  
HSEC8-160-01-L-DV-A-K  
EDGE CARD(0.062")  
8 Assemblies

*Note: Push the body to record the maximum shear force without -WT option.*

Step	Description
1.	Connector Shear

Group 6  
HSEC8-125-01-L-DV-A-K  
EDGE CARD(0.062")  
8 Assemblies

*Note: Push the body to record the maximum shear force without -WT option.*

Step	Description
1.	Connector Shear

Group 7  
HSEC8-160-01-L-DV-A-WT  
EDGE CARD(0.062")  
8 Assemblies

*Note: Push the mated PCB (10 position and 60 position together, mated to one board) to record the maximum shear force with -WT option.*

Step	Description
1.	Connector Shear

Group 8  
HSEC8-160-01-L-DV-A-K  
EDGE CARD(0.062")  
8 Assemblies

*Note: Push the mated PCB (10 position and 60 position together, mated to one board) to record the maximum shear force without -WT option.*

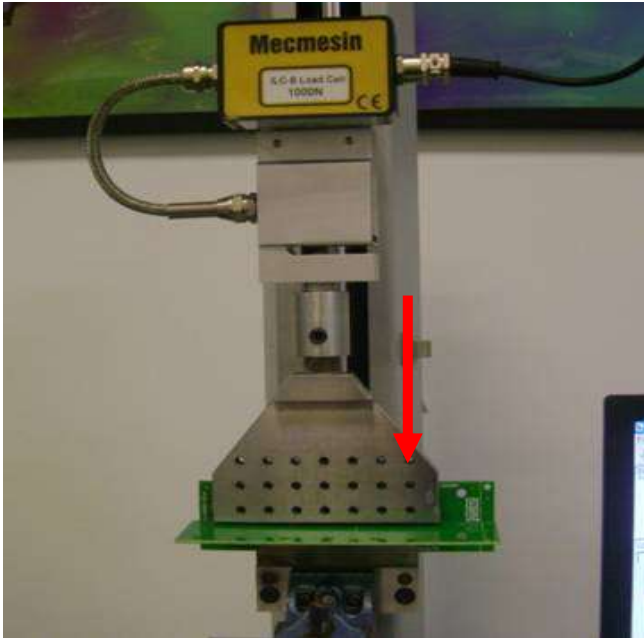
Step	Description
1.	Connector Shear

### ATTRIBUTE DEFINITIONS

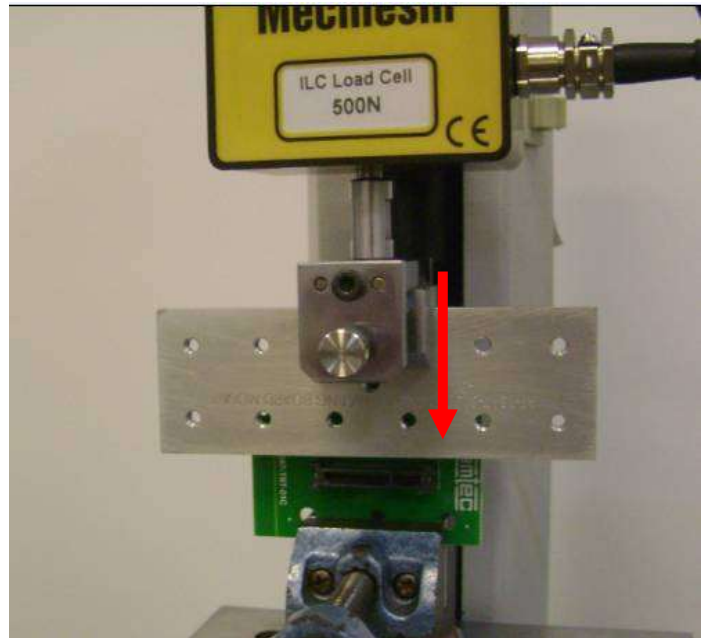
The following is a brief, simplified description of attributes.

#### CONNECTOR PULL/SHEAR:

- 1) Secure the fixture near center and push on connector to record maximum shear force.



Push card



Push body only

Fig. 1

**RESULTS****Shear force-----body only with the weld tabs****HSEC8-110-01-S-DV-A-WT**

- Min -----41.73 Lbs
- Max-----56.96 Lbs

**HSEC8-125-01-S-DV-A-WT**

- Min -----62.28 Lbs
- Max-----80.95 Lbs

**HSEC8-160-01-S-DV-A-WT**

- Min -----87.73 Lbs
- Max----- 116.50 Lbs

**Shear force-----body only without the weld tabs****HSEC8-110-01-S-DV-A-K**

- Min -----16.95 Lbs
- Max-----23.63 Lbs

**HSEC8-125-01-S-DV-A-K**

- Min -----41.28 Lbs
- Max-----47.85 Lbs

**HSEC8-160-01-S-DV-A-K**

- Min -----62.13 Lbs
- Max-----75.57 Lbs

**Shear force----- mated with the edge card &with the weld tabs****HSEC8-110-01-S-DV-A-WT+ HSEC8-160-01-S-DV-A-WT/card**

- Min -----25.44 Lbs
- Max-----36.12 Lbs

**Shear force----- mated with the edge card &without the weld tabs****HSEC8-110-01-S-DV-A-K+ HSEC8-160-01-S-DV-A-K/card**

- Min -----17.70 Lbs
- Max-----27.68 Lbs

**DATA SUMMARIES****Shear force-----body only with the weld tabs****HSEC8-110-01-S-DV-A-WT**

	Force (lbs)
Minimum	<b>41.73</b>
Maximum	56.96
Average	51.69

**HSEC8-125-01-S-DV-A-WT**

	Force (lbs)
Minimum	<b>62.28</b>
Maximum	80.95
Average	70.09

**HSEC8-160-01-S-DV-A-WT**

	Force (lbs)
Minimum	<b>87.73</b>
Maximum	116.50
Average	102.30

**Shear force-----body only without the weld tabs****HSEC8-110-01-S-DV-A-K**

	Force (lbs)
Minimum	<b>16.95</b>
Maximum	23.63
Average	21.41

**HSEC8-125-01-S-DV-A-K**

	Force (lbs)
Minimum	<b>41.28</b>
Maximum	47.85
Average	45.87

**HSEC8-160-01-S-DV-A-K**

	Force (lbs)
Minimum	<b>62.13</b>
Maximum	75.57
Average	68.87

**DATA SUMMARIES Continued****Shear force----- mated with the edge card &with the weld tabs****HSEC8-110-01-S-DV-A-WT+ HSEC8-160-01-S-DV-A-WT**

	Force (lbs)
Minimum	<b>25.44</b>
Maximum	36.12
Average	31.46

**Shear force----- mated with the edge card &without the weld tabs****HSEC8-110-01-S-DV-A-K+ HSEC8-160-01-S-DV-A-K**

	Force (lbs)
Minimum	<b>17.70</b>
Maximum	27.68
Average	24.42

**EQUIPMENT AND CALIBRATION SCHEDULES****Equipment #: HZ-TCT-01****Description: Normal force analyzer****Manufacturer: Mecmesin Multitester****Model: Mecmesin Multitester 2.5-i****Serial #: 08-1049-04****Accuracy: Last Cal: 4/26/2013, Next Cal: 4/25/2014**