8D Report

Customer Information / ON Semiconductor Information

Customer Information		ON Semiconductor Information	
Name	ARROW ELECTRONICS TAIWAN LTD	Customer Quality Champion	M. Y. Tang
Contact	ann	Phone	+886-936-101854
Phone	…	Email	M.Y.Tang@onsemi.com
Email	…	EFAR #	496359
Reference #	Avalue Tech. Inc. (via Arrow), end customer return, project YOLII-1033-33-S02R	ON Semiconductor Part Number	FDMS0312AS
Customer Part Number	E1315031210H	Sample Receive Date	15-AUG-2018
Initiate Date	27-MAR-2018	Qty. Received	2
Point of Failure	AE-END CUSTOMER	Package Type	PQFN-8_483AE_REEL_3000

Detailed Unit Information

Unit #	Markings	Date Code	Assy Site	Assy Lot	Test Site	Test Lot	Wafer Fab	Wafer Lot
1,2	MJ03AB FDMS 0312AS	1803	CNJ – GEM SH	…	CNJ – GEM SH		Vanguard	…

D1.   Team

Team Contacts	
Role	**Name**
Leader	…
Customer Quality Engineer	M. Y. Tang
FA Analyst	…
Product Engineer	…
Reliability Engineer	…

D2.	Define and Describe the Problem

The customer provided the following problem description: "End customer return, no output, please help and perform FA."

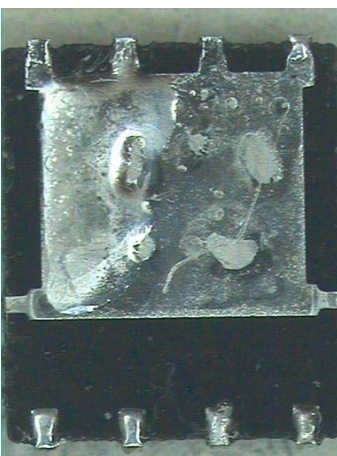| D3.	Develop & Implement Interim Containment Plan

N/A

D4.	Identify Root Cause

Failure Analysis Summary and root cause analysis:

4.1.1 *External Visual Inspection*

#1

#2

Comments: Solder was observed on the external leads.

4.1.2   *Electrical Verification*:
The returned sample was subjected to electrical test, and the test results can be seen below table:

DC Test results:

ELECTRICAL INVESTIGATION & RESULTS									
Item Name	VTH(V)	BVDSS(V)	IGSS(nA)	RDON(mR)	RDON(mR)	VDSON(V)	IGSS(nA)	IDSS(uA)	
Bias1	ID= 1.00mA	ID= 1.00mA	VGS= 20.0V	ID= 18.0A	ID= 4.5A	ID=2.00A	VGS= -20.0	VDS= 24.0V	
Bias2				VGS= 10.0V	VGS= 16.0V	VGS= 0.0V			Comments
Bias3									
Min Limit	1.200 V	30.0 V							
Max Limit	3.000 V		100.0nA	5.00mR	6.20mR	0.800 V	100.0nA	500.0uA	
1	0.0013 V	0.0001 V	9999	9999	9999	-0.1352 V	9999	9999	G-D-S short
2	0.0013 V	0.0001 V	9999	9999	9999	-0.1603 V	9999	9999	G-D-S short
Comments: The units were failed in GDS short.									

Curve Tracer

CURVE TRACER VERIFICATION

Item Name	VTH(V)	BVDSS(V)	IGSS(nA)	IDSS(uA)	Comments
Bias1	ID= 1.00mA	ID= 1.00mA	VGS= 20.0V	VDS= 24.0V	
Bias2					
Bias3					
Min Limit	1.200 V	30.0 V			
Max Limit	3.000 V		100.0nA	500.0uA	
1	0.1 V	0.1 V	over	over	G-D-S short
2	0.1 V	0.1 V	over	over	G-D-S short

#1
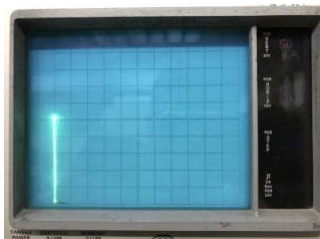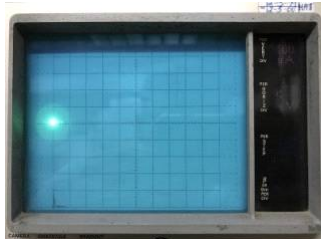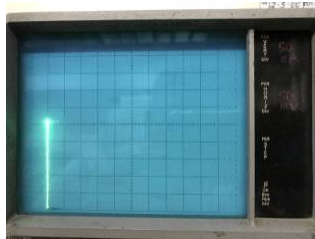
BVDSS	IDSS	VTH	IGSS
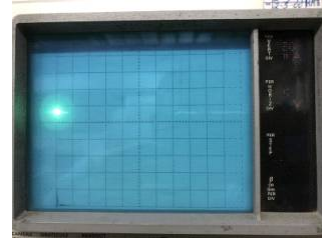
#2
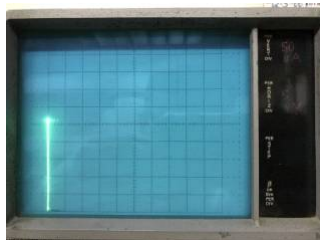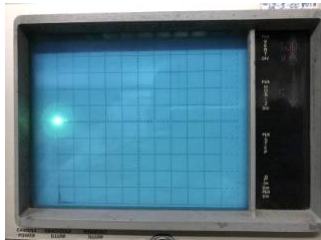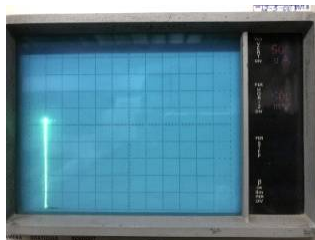
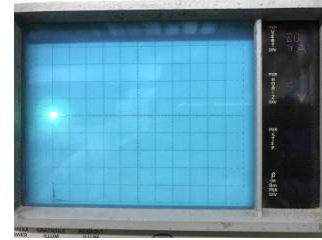| BVDSS	IDSS	VTH	IGSS

Comments: The same as the DC test results.
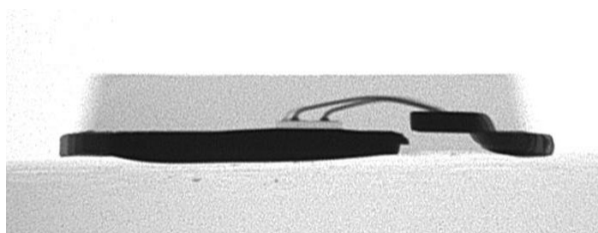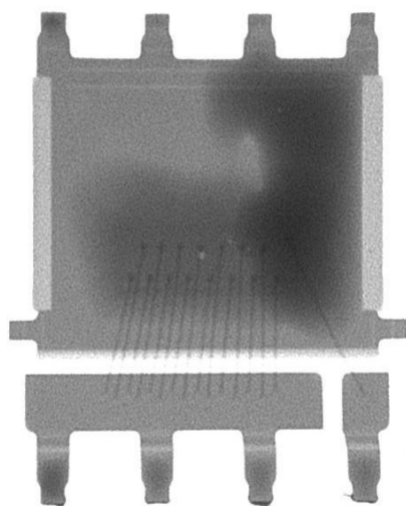
4.1.3   *X-ray*

X_RAY ANALYSIS

#1
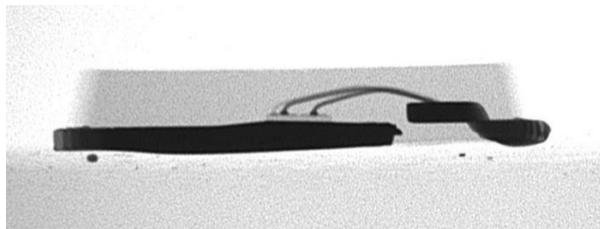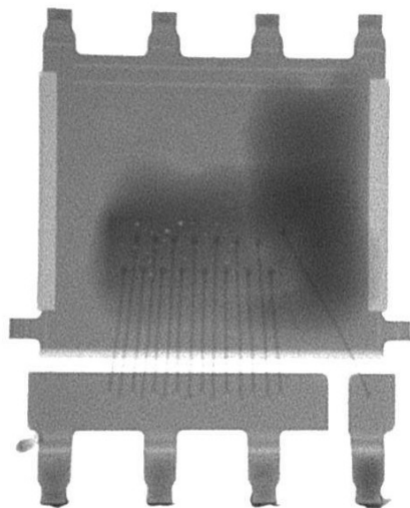
#2

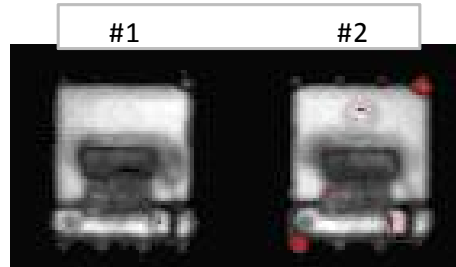**Comments:** No abnormality was found.
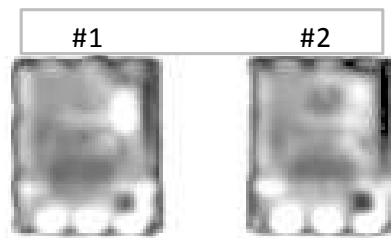
4.1.4   SAM Analysis for failure units

SAM ANALYSIS

C-SCAN

T-SCAN

Comments: No abnormity was found.

4.1.5   De-cap analysis:

Burn mark

#2
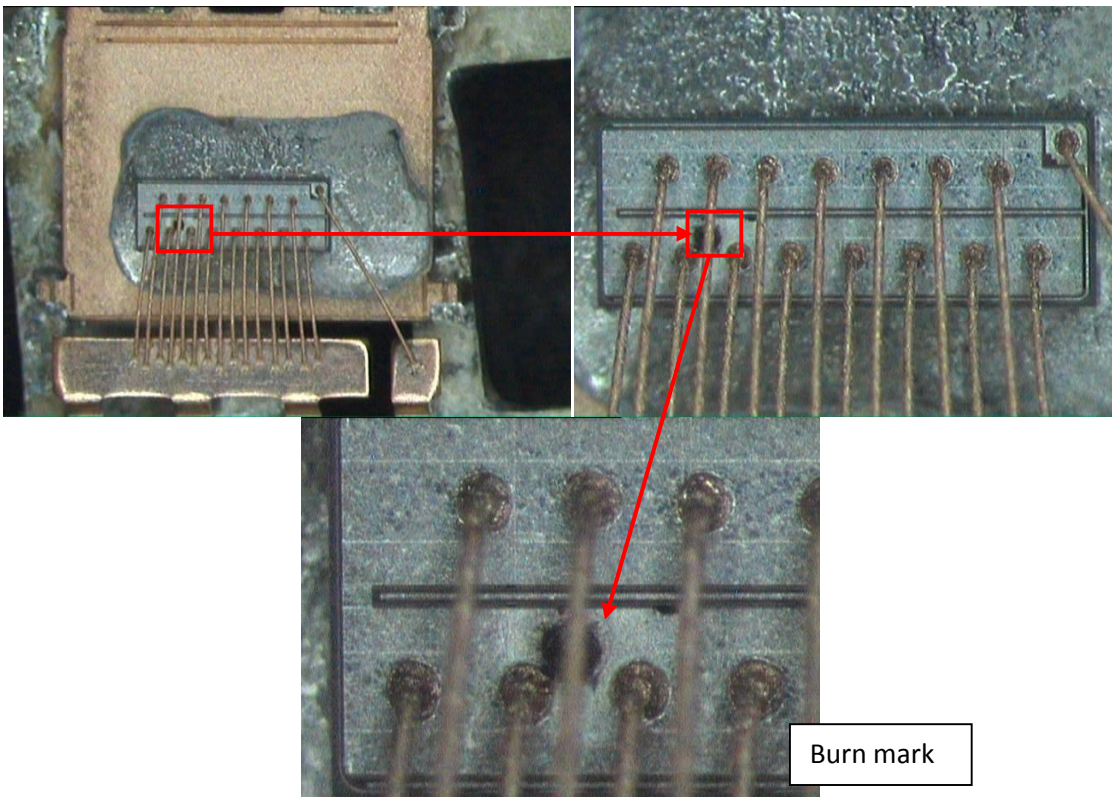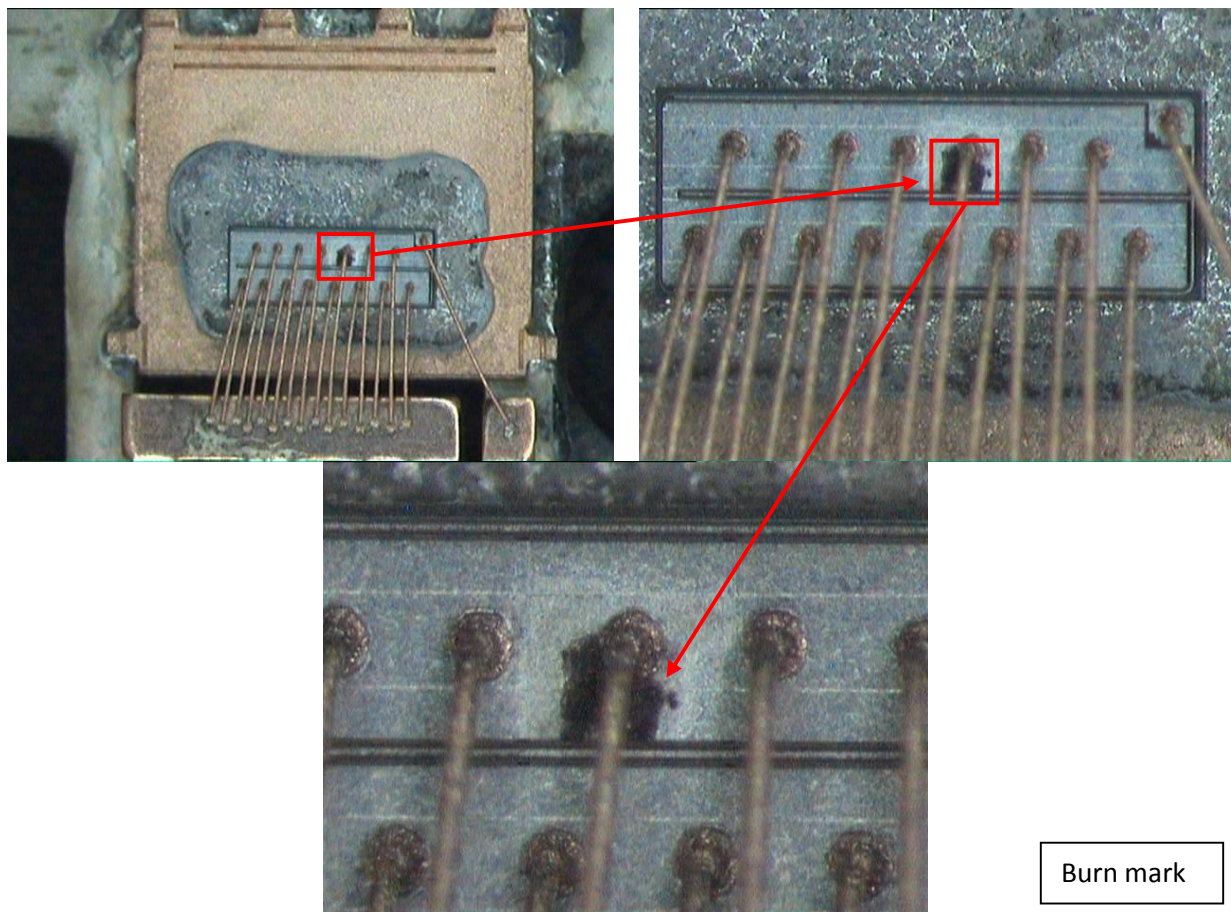
Burn mark

Comments: Burn mark was found from die surface

4.1.6   Summary of F/A Result:
- External Inspection: - - - - Solder was observed on the external leads.
- Electrical Test: - - - -All units failed GDS short
- Curve Tracer Verification: - - - - The same as the DC test results.
- X-RAY Analysis: - - - - No abnormal was found.
- SAM Analysis: - - - - No abnormal was found.
- De-cap for failed unit: - - - - Burn mark was found from die surface

Comments:

The return units failed due to EOS.

D5.	**Define Permanent Corrective Actions**

N/A

D6.	**Implement Permanent Corrective Actions**

N/A

D7.	**Prevent Recurrence**

N/A

D8.	**Congratulate the Team**

Final Approval	
Role	**Name**
Customer Quality	
Analysis Lab Manager	
Product Engineer Manager	
Quality Manager	

Glossary	
Acronym / Term	**Definition**

Important Remarks:
• All material described in section 'D2' will be archived for 30 days. Return of the material not explicitly requested by the customer outside this timeframe cannot be guaranteed.

Document Revision History				
Revision	**Change Originator**	**Reason**	**Change Analyst**	**Effective Date**

O	Hong Fong Yap	Initial Release. Requested by Hong Fong Yap per ECO-NBOI-032270	V. Ilas/ J. Tandoc	23 Apr 2012
A	Hong Fong Yap	Update to template with change in D1 and D2 to include the unit information. Requested by Hong Fong Yap per ECO-NBOI-037745.	J. Tandoc	08 Nov 2012
B	Ariel Tang	New format of 8D report in ONIT system internally used at ONSEMI, and also to align to the global format as requested by our Supplier Quality. Requested by Ariel Tang under ECO-NBOI-054434	L. Patagan	10 Feb 2014
C	Hong Fong Yap	Update template to include the Ishikawa at 4.2 and 5-why at 4.3 Requested by Hong Fong Yap per ECO-NBOI-058895.	J. Tandoc	12 May 2014
D	Hong Fong Yap	Added comment at D5: Justification needed for incomplete 8D Requested by Hong Fong Yap per ECO-NBOI-115396	L. Patagan	01 Aug 2016
E	Hong Fong Yap	Update 8D report template with new revision from V.2.29 to V.2.3.3 which to align with FA report template. Requested by Hong Fong Yap per ECO-NBOI-147249	L. Patagan	18 Sept 2017
F	Hong Fong	Update 8D report template with new revision from V.2.3.3 to V.2.3.4 which to align with FA report template.		