



# PRODUCT/PROCESS CHANGE NOTIFICATION

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PCN APM-DIS/07/2725  
Notification Date 07/16/2007

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**APM - ASD & IPAD Division**  
**DVIULC6-4SC6 & HDMIULC6-4SC6 in SOT23-6L package**  
**Implementation of secondary passivation**  
**DIS - ASD & IPAD**

**Table 1. Change Identification**

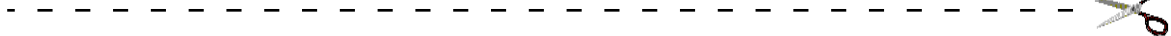
Product Identification (Product Family/Commercial Product)	DVIULC6-4SC6 & HDMIULC6-4SC6 in SOT23-6L package
Type of change	Product design change
Reason for change	Production rationalization
Description of the change	A PSG passivation layer is implemented above the primary passivation in SiO <sub>2</sub> . This change has no impact on the electrical parameters, including the leakage current and capacitance parameters. This was verified in the qualification program through product characterizations.
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	Date code, internal codification & QA number
Manufacturing Location(s)	

**Table 2. Change Implementation Schedule**

Forecasted implementation date for change	10-Aug-2007
Forecasted availability date of samples for customer	09-Jul-2007
Forecasted date for <b>STMicroelectronics</b> change Qualification Plan results availability	09-Jul-2007
Estimated date of changed product first shipment	15-Oct-2007

**Table 3. List of Attachments**

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt	PCN APM-DIS/07/2725
Please sign and return to STMicroelectronics Sales Office	Notification Date 07/16/2007
<input type="checkbox"/> Qualification Plan Denied <input type="checkbox"/> Qualification Plan Approved  <input type="checkbox"/> Change Denied <input type="checkbox"/> Change Approved	Name: Title: Company: Date: Signature:
Remark ..... ..... ..... ..... ..... ..... ..... ..... ..... .....	

## DOCUMENT APPROVAL

Name	Function
Moreau, Jean Benoit	Division Marketing Manager
Duclos, Franck	Division Product Manager
Besson, Andre	Division Q.A. Manager



**PRODUCT/PROCESS  
CHANGE NOTIFICATION**

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**PCN APM-DIS/07/2725**

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**APM - ASD & IPAD Division<sup>1</sup>**

**DVIULC6-4SC6 & HDMIULC6-4SC6 in SOT23-6L package:**

**Implementation of secondary passivation**



*(1) APM: Analog, Power & MEMS Group - Application Specific Device - IPAD: Integrated Passive and Active Devices*

**WHY THIS CHANGE?**

STMicroelectronics has decided the implementation of a **secondary passivation** on its **DVIULC6-4SC6 & HDMIULC6-4SC6** in SOT23-6L package to **rationalize** its production. At the same time, the **bonding pad** will be slightly resized for the same reason.

**WHAT IS THE CHANGE?**

While the diffusion steps for the elaboration of the devices remain exactly the same, a PSG\* passivation layer is implemented above the primary passivation in **SiO<sub>2</sub>**. This change has **no impact on the electrical parameters**, including the leakage current and capacitance parameters. This was verified in the qualification program through product characterizations.

(\* *Phosphosilicate glass*)

**HOW AND WHEN?**Qualification and test results:

The **reliability tests plan** supporting the change is provided in **appendix 1** of the present document. The production ramp-up will be monitored with a **pre-launch control plan** implemented on selected parameters.

The **qualification report** is available on request from **now**.

Sampling:

**Qualification samples** of the devices produced with secondary passivation are **available** now.

Change implementation schedule:

The **production start** and **first shipments** will be implemented according to our work in progress and materials availability as indicated in the schedule below:

Salestypes	Production Start	1st Shipments
ALL	From Week 32-2007	From Week 42-2007

Lack of acknowledgement of the PCN within **30 days** will constitute acceptance of the change. After acknowledgement, lack of additional response within the **90 day** period will constitute acceptance of the change (Jedec Standard No. 46-C). In any case, **first shipments** may start earlier with customer's **written agreement**.

Marking and Traceability:

Parts with the secondary passivation will have the same marking as currently produced parts. The **traceability** will be ensured by the **date code**, by an **internal codification**, and by the **Q.A. number**.

Appendix 1: Reliability tests for qualification program of change



**DVIULC6-4SC6 & HDMIULC6-4SC6 in SOT23-6L package: Implementation of secondary passivation**

**Reliability tests plan for QUALIFICATION PROGRAM (according to AEC Q101 standard)**

Product Family	Test Vehicle Salestypes
Low capacitance Protection Devices	DVIULC-4SC6
	HDMIULC6-4SC6

QUALIFICATION TESTS					
TEST	CONDITIONS	DURATION	NBR OF LOTS (*)	SAMPLE SIZE	ACCEPTANCE CRITERIA
Parametric verification	Data sheet specification	Not applicable	3	30 pcs / lot	Datasheet
Pressure Cooker Test JESD22-A102	121°C 2 atm 100%RH	96 Hours	3	77 pcs / lot	0 failure
Temperature Cycling JESD22 A104	-55°C/+150°C - Air/Air	1000 cycles	3	77 pcs / lot	0 failure
Temperature Humidity Bias JESD22 A101	Tamb = 85°C RH = 85% V = VRM	1000 hours	3	77 pcs / lot	0 failure
High Temperature Reverse Bias JESD22-A108	V = VRM Tj = 150°C	1000 hours	3	77 pcs / lot	0 failure
Construction analysis	Random samples	Not applicable	1	5pcs	Assembly rules
Resistance to Solder Heat Jedec JESD22-B106-B	2 oil dipping at 260°C	10s on / 15 s off	3	30 pcs / lot min	0 failure

(\*) Lots selected among test vehicles indicated above or of other devices presenting sufficient technological similarities.

NOTE : A preconditioning sequence is performed before PCT, TC and THB reliability tests according to JESD22-A113.

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