PRODUCT/PROCESS CHANGE NOTIFICATION

PCN IPG-IPC/14/8543
Dated 19 Aug 2014

TD350E : Metal mask change

Table 1. Change Implementation Schedule

Forecasted implementation date for change	01-Jan-2015
Forecasted availability date of samples for customer	30-Nov-2014
Forecasted date for **STMicroelectronics** change Qualification Plan results availability	12-Aug-2014
Estimated date of changed product first shipment	15-Jan-2015

Table 2. Change Identification

Product Identification (Product Family/Commercial Product)	TD350Eand TD350ETR
Type of change	Product design change
Reason for change	Yield improvement
Description of the change	We have introduced a minor mask set modification with no impact on the electrical and mechanical characteristics of the product. The product specifications remain unchanged.
Change Product Identification	By a new Finished Goods code
Manufacturing Location(s)	

DOCUMENT APPROVAL

Name	Function
Chelli, Fabio	Marketing Manager
Arrigo, Domenico Massimo	Product Manager
Moretti, Paolo	Q.A. Manager

ATTACHMENT TO PCN IPG-IPC/14/8543

WHAT*:*

We have introduced a minor mask set modification with no impact on the electrical and mechanical characteristics of the product.
The product specifications remain unchanged.

The involved product is the TD350E. A new Finished Goods code will identify the change, as shown below:

Product Line	Commercial Product	Old finished Goods	**New** Finished Goods
D350	TD350E (tube)	TD350E-1LF/	TD350E-2LF/
	TD350ETR (tape&reel)	TD350ETR-1LF/	TD350ETR-2LF/

WHY*:*

The change has been implemented in order to improve the yield.

HOW*:*

As per the attached report.

WHEN*:*

The change will be effective from January, 2015.

Product Reliability Certificate

Line : D350
Division : IND.& POWER CONV.
Function : ADVANCED IGBT / MOSFET DRIVER
Aim of the Qualification : DIFFUSION TRANSFER

Device construction note

DIE FEATURES		
Wafer Code	**:**	D350
Diffusion Site	**:**	AMK6
Wafer Diameter (inches)	**:**	6
Die Size X (µm)	**:**	2830
Die Size Y (µm)	**:**	1960
Process Technology	**:**	BCD3S
Passivation	**:**	SiON - PIX

PACKAGE FEATURES		
Package Description	**:**	SO14
Assembly Site	**:**	SHENZHEN
Die Attach material	**:**	HITACHI ENX49VA-S
Bonding wire material	**:**	Cu
Bonding wire diameter (mils)	**:**	1
Molding compound	**:**	EME-G630AY
Lead frame material	**:**	Ni/Thin/Pd/Ag/Au

Objectives:

Considering that the BCD3S in AMK6 diffusion plant is qualified, and the package in SHENZHEN is already qualified (see PCN IPD-IPC/12/7348) all positive results obtained on D350 diffused in Carrollton (see below table 1.0 Reliability Trials) can be extended to D350 diffused in AMK6 diffusion plant.

Conclusion:

This certificate assures that the device D350 with the above construction notes passed the reliability evaluation and can be put in mass production from reliability point of view.

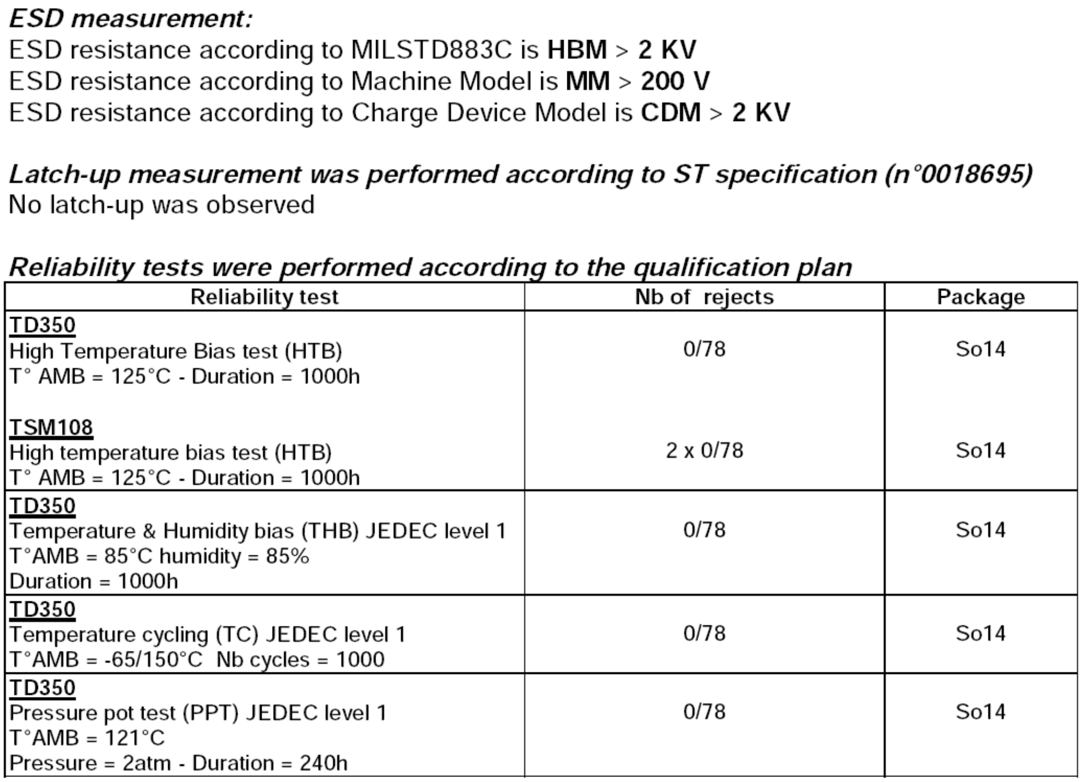
Issued by:

Gianfranco D'Angelo

Approved by:

Alceo Paratore

1.0 Reliability Trials



ESD measurement:
ESD resistance according to MILSTD883C is **HBM** > **2 KV**
ESD resistance according to Machine Model is **MM** > **200 V**
ESD resistance according to Charge Device Model is **CDM** > **2 KV**

Latch-up measurement was performed according to ST specification (n°0018695)
No latch-up was observed

Reliability tests were performed according to the qualification plan

Reliability test	Nb of rejects	Package
TD350 High Temperature Bias test (HTB) T° AMB = 125°C - Duration = 1000h	0/78	So14
TSM108 High temperature bias test (HTB) T° AMB = 125°C - Duration = 1000h	2 x 0/78	So14
TD350 Temperature & Humidity bias (THB) JEDEC level 1 T°AMB = 85°C humidity = 85% Duration = 1000h	0/78	So14
TD350 Temperature cycling (TC) JEDEC level 1 T°AMB = -65/150°C Nb cycles = 1000	0/78	So14
TD350 Pressure pot test (PPT) JEDEC level 1 T°AMB = 121°C Pressure = 2atm - Duration = 240h	0/78	So14

The TD350 is an advanced gate driver for IGBT and power MOSFET . Control & Protection functions are included and allow the design of high reliability systems. Since it is a derivative of TSM108 device the characterization has been performed on both products.

All the above trials have been performed on Carrollton diffusion.

Public Products List

PCN Title : TD350E : Metal mask change
PCN Reference : IPG-IPC/14/8543
PCN Created on : 13-AUG-2014

Subject : Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change:

ST COMMERCIAL PRODUCT

TD350E	TD350ETR

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