


PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.	ADG/21/13053	
1.3 Title of PCN	STL120N8F7 (OD8F): Metal and Passivation Change	
1.4 Product Category	STL120N8F7	
1.5 Issue date	2021-10-10	

2. PCN Team

2.1 Contact supplier	
2.1.1 Name	ROBERTSON HEATHER
2.1.2 Phone	+1 8475853058
2.1.3 Email	heather.robertson@st.com
2.2 Change responsibility	
2.2.1 Product Manager	Mario ASTUTI
2.1.2 Marketing Manager	Anna RANIOLO, Michele SCUTO
2.1.3 Quality Manager	Vincenzo MILITANO

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Wafer Fab (Process)	Metallization : change in metal layers type/nature, composition or final thickness	ST AngMoKio (Singapore)

4. Description of change

	Old	New
4.1 Description	Metal: TiAlCu 4.5 um Passivation: TEOS 10 kA + Sin 10kA	Metal: TiAlCu 3.2 um Passivation: USG 6 kA + TEOS 12 kA
4.2 Anticipated Impact on form, fit, function, quality, reliability or processability?	No Impact	

5. Reason / motivation for change

5.1 Motivation	Fab Process Rationalization
5.2 Customer Benefit	SERVICE CONTINUITY

6. Marking of parts / traceability of change

6.1 Description	Dedicated Finished Good Code
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7. Timing / schedule

7.1 Date of qualification results	2021-10-01
7.2 Intended start of delivery	2022-01-01
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	13053 Validation.zip		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2021-10-10

9. Attachments (additional documentations)

13053 Public product.pdf 13053 Validation.zip 13053 Details.pdf

10. Affected parts		
10. 1 Current		10.2 New (if applicable)
10.1.1 Customer Part No	10.1.2 Supplier Part No	10.1.2 Supplier Part No
	STL120N8F7	

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PRODUCT/PROCESS CHANGE NOTIFICATION

TITLE	STL120N8F7 (OD8F): Metal and Passivation Change										
IMPACTED PRODUCTS	STL120N8F7 (silicon line OD8F)										
MANUFACTURING STEP	Silicon Diffusion (Metal and passivation steps)										
INVOLVED PLANT	ST SG8" (AngMoKio – Singapore)										
CHANGE REASON	Fab Process Rationalization										
CHANGE DESCRIPTION	<p>Due to process rationalization on STL120N8F7 (silicon line OD8F) Will be introduced the following metal and passivation changes</p> <table border="1"> <thead> <tr> <th></th><th>Current</th><th>New</th></tr> </thead> <tbody> <tr> <td>Metal</td><td>TiAlCu 4.5 um</td><td>TiAlCu 3.2 um</td></tr> <tr> <td>Passivation</td><td>TEOS 10 kA + Sin 10kA</td><td>USG 6 kA + TEOS 12 kA</td></tr> </tbody> </table>			Current	New	Metal	TiAlCu 4.5 um	TiAlCu 3.2 um	Passivation	TEOS 10 kA + Sin 10kA	USG 6 kA + TEOS 12 kA
	Current	New									
Metal	TiAlCu 4.5 um	TiAlCu 3.2 um									
Passivation	TEOS 10 kA + Sin 10kA	USG 6 kA + TEOS 12 kA									
TRACEABILITY	Dedicated Finished Good codes										
VALIDATION	Qualification results (reliability, electrical comparison) included in this communication										
REPORTS	13053_Validation.zip										

STL120N8F7 (OD8F01): Fab Process Rationalization

Release date: October, 2021



OUTLINE

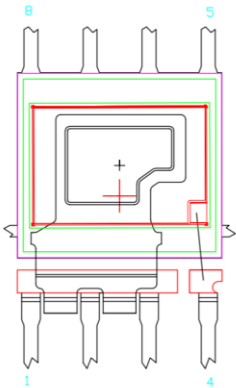
3 ^{Augmented} Change Description: Overview

4 Change Details Tables

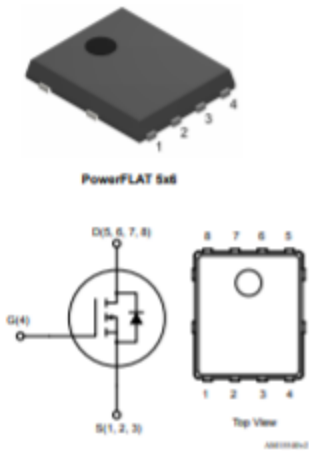
5 Qualification Plan

Description of the change

1	Commercial Product	Silicon Line	PACKAGE	Techno	Change Description
	STL120N8F7	OD8F01	Power FLAT 5x6	OFT1 80V	<ul style="list-style-type: none">Industrial vs Automotive FE process integration and rationalization – Metal and Passivation alignment



OD8F (10 mm²)



STL120N8F7

Change Details Table

Item	Changed	Current	Proposal
Wafer Production Site	YES	AMK – SG8 FAB	AMK – SG8 FAB
Materials	NO		
Production Method	NO		
Layout	NO		
Mask (active area)	NO		
Metal layer	YES	TiAlCu 4.5 um	TiAlCu 3.2 um
Passivation layer	YES	TEOS 10 kA + Sin 10kA	USG 6 kA + TEOS 12 kA
Passivation mask	NO		
Brasable Metal	NO		
Wafer Probe Test	NO	ST AMK (Singapore) EWS	ST AMK (Singapore) EWS
Package Assembly Site	NO	Same Assembly Plant → NANTONG FUJITSU (TFME) - CHINA	
Wafer Mount & Sawing	NO		
Die Attach	NO		
Wire Bonding	NO		
Molding	NO		
Cropping	NO		
Final Testing	NO	Same Testing Plant → NANTONG FUJITSU (TFME) - CHINA	

Qualification Plan for AMK Silicon

Silicon Line	Die size	Commercial Product	Package	Sample Size	Target	Qualification Plan
OD8F	10.4mm ²	STL120N8F7	PowerFlat 5x6	1 Lot	Full Product Qualification	• Static and Reliability electrical parameters - Comparative analysis with Catania

AEC-Q101 Test Plan Table

#	TEST NAME	DESCRIPTION / COMMENTS	TEST FLAG
1	TEST	Pre- and Post- Stress Electrical Test	Yes
2	PC	Preconditioning	Yes
3	PV	Parametric Verification	Yes
4	HTRB	High Temperature Reverse Bias	Yes
5	HTGB	High Temperature Gate Bias	Yes
	HTGB(n)	High Temperature Gate Bias – negative	Yes
6	HTSL	High Temperature Storage Life	Yes
7	THB	Temperature Humidity bias	Yes
8	AC	Autoclave	Yes
9	TC	Temperature Cycling	Yes
10	IOL	Intermittent Operational Life	Yes
11	ESD –HBM	Human Body Model ESD	Yes
12	ESD – CDM	Charged Device Model ESD	Yes

Thank you



Public Products List

Public Products are off the shelf products. They are not dedicated to specific customers, they are available through ST Sales team, or Distributors, and visible on ST.com

PCN Title : STL120N8F7 (OD8F): Metal and Passivation Change

PCN Reference : ADG/21/13053

Subject : Public Products List

Dear Customer,

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

STL120N8F7		
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