Product/process change notification

PCN N° 2022-239-A

Dear customer,

Please find attached our Infineon Technologies AG PCN:

Introduction of an additional wafer production location at Hua Hong Grace Semiconductor Fab3 (200mm), Shanghai, China for PSoC™ 3 (CY8C32xx/CY8C34xx/CY8C36xx/CY8C38xx) products

Important information for your attention:

- Please respond to this PCN by indicating your decision on the approval form, sign it and return to your sales partner before **2023-07-11**
- Infineon aligns with the widely recognized JEDEC STANDARD **“JESD46“,** which stipulates: **“Lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change.”**

Your prompt reply will help Infineon to assure a smooth and well-executed transition. If Infineon does not hear from your side by the due date, we will assume your full acceptance to this proposed change and its implementation.

Your attention and response to this matter is greatly appreciated.

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Product/process change notification

PCN N° 2022-239-A

▸ Products affected

Please refer to attached affected product list “PCN_2022-239-A_[customer-no].pdf”

▸ Detailed change information

Subject

Introduction of an additional wafer production location at Hua Hong Grace Semiconductor Fab3 (200mm), Shanghai, China for PSoC™ 3 (CY8C32xx/CY8C34xx/CY8C36xx/CY8C38xx) products.

Reason

Expansion of wafer production to assure continuity of supply and enable flexible manufacturing.

Description

Old	New
■ Cypress Semiconductor Corporation (Fab 25), Austin, United States	■ Hua Hong Grace Semiconductor Fab3 (200mm), Shanghai, China
■ SkyWater Technology Foundry, Minnesota, United States	

▸ Product identification

Infineon maintains traceability of product to wafer level, including wafer fabrication location, through the lot number marked on the package.

▸ Impact of change

No impact on electrical performance. Quality and Reliability verified by qualification. There is no change in form, fit and function.

▸ Attachments

“PCN_2022-239-A_[*customer-no*].pdf”	affected product list
2_cip22239_A	qualification report

The following samples are available for this PCN:

PACKAGE	SUPERSET MPN	CUSTOMER SAMPLE MPN
100-TQFP	CY8C3866AXI-040	CY8C3866AXI5-040
68-QFN	CY8C3866LTI-030	CY8C3866LTI5-030
48-QFN	CY8C3866LTI-068	CY8C3866LTI5-068
48-SSOP	CY8C3866PVI-021	CY8C3866PVI5-021

Note: For sample validation, customer can use/request superset MPN mentioned for each package. Superset MPN had all the features required for the customer application]

▶ Time schedule

■ Final qualification report	available
■ First samples available	on request
■ Intended start of delivery	2023-11-29

If you have any questions, please do not hesitate to contact your local sales office.

Product Qualification Report

CY8C32xx/CY8C34xx/CY8C36xx/CY8C38xx

PSoC3 Programmable System-on-Chip

Description

This product qualification report describes the characteristics of the product with respect to quality and reliability.

The qualification sample selection was done on production lots which were manufactured and tested on standard production processes and meet the defined requirements.

The qualification test results of those products as outlined in this document are based on **JESD47** for target applications and may reference existing qualification results of similar products. Such referencing is justified by the structural similarity of the products.

Qualification Assessment

Fully qualified according to **JESD47** for **Commercial / Industrial Applications** and assessed as PASS.

For further information about comparable products, please contact the nearest Infineon Technologies office (www.infineon.com).

CY8C32xx/CY8C34xx/CY8C36xx/CY8C38xx

Electrical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Early Life Failure Rate JESD22 A108 / JESD74	EFR	Ta = 150°C	48h	3/4567	0/4567	PASS
High Temperature Operating Life JESD22 A108	HTOL	Ta = 150°C	500h	2/250	0/250	PASS

Environmental Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Pre-Conditioning JESD22 A113	PC	MSL 3 3 x reflow	192h	3/561	0/561	PASS
Temperature Cycling JESD22 A104	TC*	-65°C to +150°C	500 cyc 1000 cyc	3/239 3/239	0/239 0/239	PASS
Biased HAST JESD22-A110	HAST*	Ta=130°C RH=85%	96h	3/83	0/83	PASS
Unbiased HAST JESD22 A118	uHAST*	Ta=130°C RH=85%	96h 192h	3/239 3/239	0/239 0/239	PASS
High Temperature Storage JESD22-A103 & A113	HTS	Ta=150°C	500h 1000h	1/80 1/80	0/80 0/80	PASS

Device Characterization and Classifications:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
ESD Charged Device Model JESD22-C101	ESD CDM	Class C3	-	1/3	0/3	PASS
ESD Human Body Model JESD220A114E	ESD HBM	Class 2	-	1/3	0/3	PASS
Static Latch Up JESD78	SLU	Class II	-	1/3	0/3	PASS

Notes:
*For SMD devices reliability stress tests performed after pre-conditioning test (PC)

Further abbreviations: MSL - moisture sensitivity level, Qty – quantity, RH – relative humidity, SS – sample size, Ta – ambient temperature

**Data source: QTP# 201202

- PSoC3 is a derivative product. 3 lots qualification was performed on the lead device in QTP#090706.

Document History Page

Document Title: QTP#201202: CY8C32xx/CY8C34xx/CY8C36xx/CY8C38xx PSoC3 Programmable System-on-Chip

Document Number: 002-37234

Rev.	ECN No.	Orig. of Change	Description of Change
**	7878233	HSTO	Initial Spec Release

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Affected products sold to FUTURE ELECTRONICS INC. (4000624)

Sales name	SP number	OPN	Package	Customer part number
CY8C3244LTI-130	SP005642079	CY8C3244LTI-130	PG-VQFN-68-801	
CY8C3244PVI-133	SP005642083	CY8C3244PVI-133	PG-SSOP-48-801	
CY8C3244PVI-133T	SP005642085	CY8C3244PVI-133T	PG-SSOP-48-801	CY8C3244PVI-133T
CY8C3245AXI-158	SP005642087	CY8C3245AXI-158	PG-TQFP-100-801	CY8C3245AXI-158
CY8C3245PVI-150	SP005642113	CY8C3245PVI-150	PG-SSOP-48-801	CY8C3245PVI-150
CY8C3246AXI-138	SP005642121	CY8C3246AXI-138	PG-TQFP-100-801	CY8C3246AXI-138
CY8C3445AXI-104	SP005642155	CY8C3445AXI-104	PG-TQFP-100-801	CY8C3445AXI-104
CY8C3446AXI-099	SP005642775	CY8C3446AXI-099	PG-TQFP-100-801	
CY8C3446AXI-099T	SP005642777	CY8C3446AXI-099T	PG-TQFP-100-801	CY8C3446AXI-099T
CY8C3446AXI-105	SP005642779	CY8C3446AXI-105	PG-TQFP-100-801	
CY8C3446LTI-073	SP005642783	CY8C3446LTI-073	PG-VQFN-48-804	CY8C3446LTI-073
CY8C3666AXI-036	SP005642813	CY8C3666AXI-036	PG-TQFP-100-801	CY8C3666AXI-036
CY8C3666AXI-052	SP005642821	CY8C3666AXI-052	PG-TQFP-100-801	CY8C3666AXI-052
CY8C3865AXI-019	SP005642843	CY8C3865AXI-019	PG-TQFP-100-801	
CY8C3866AXI-040	SP005642859	CY8C3866AXI-040	PG-TQFP-100-801	CY8C3866AXI-040
CY8C3866AXI-208	SP005642867	CY8C3866AXI-208	PG-TQFP-100-801	CY8C3866AXI-208
CY8C3866LTI-030	SP005642877	CY8C3866LTI-030	PG-VQFN-68-801	CY8C3866LTI-030
CY8C3866LTI-068	SP005642885	CY8C3866LTI-068	PG-VQFN-48-804	CY8C3866LTI-068
CY8C3866PVI-021	SP005645379	CY8C3866PVI-021	PG-SSOP-48-801	CY8C3866PVI-021
CY8C3866PVI-021T	SP005645381	CY8C3866PVI-021T	PG-SSOP-48-801	CY8C3866PVI-021T

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Affected products sold to FUTURE ADVANCED ELECTRONICS LIMITED (4066440)

Sales name	SP number	OPN	Package	Customer part number
CY8C3246AXI-138	SP005642121	CY8C3246AXI-138	PG-TQFP-100-801	CY8C3246AXI-138
CY8C3246AXI-138T	SP005642123	CY8C3246AXI-138T	PG-TQFP-100-801	CY8C3246AXI-138T
CY8C3246PVI-147	SP005642145	CY8C3246PVI-147	PG-SSOP-48-801	CY8C3246PVI-147
CY8C3445AXI-104	SP005642155	CY8C3445AXI-104	PG-TQFP-100-801	CY8C3445AXI-104
CY8C3666LTI-027	SP005642827	CY8C3666LTI-027	PG-VQFN-68-801	CY8C3666LTI-027
CY8C3866LTI-068	SP005642885	CY8C3866LTI-068	PG-VQFN-48-804	CY8C3866LTI-068

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Affected products sold to FUTURE ELECTRONICS INC. (4048203)

Sales name	SP number	OPN	Package	Customer part number
CY8C3245AXI-166	SP005642091	CY8C3245AXI-166	PG-TQFP-100-801	
CY8C3245LTI-139	SP005642097	CY8C3245LTI-139	PG-VQFN-48-804	
CY8C3246AXI-131	SP005642117	CY8C3246AXI-131	PG-TQFP-100-801	
CY8C3246AXI-138	SP005642121	CY8C3246AXI-138	PG-TQFP-100-801	
CY8C3246LTI-125	SP005642125	CY8C3246LTI-125	PG-VQFN-48-804	
CY8C3246PVI-147	SP005642145	CY8C3246PVI-147	PG-SSOP-48-801	
CY8C3445AXI-104	SP005642155	CY8C3445AXI-104	PG-TQFP-100-801	
CY8C3446AXI-099	SP005642775	CY8C3446AXI-099	PG-TQFP-100-801	
CY8C3446LTI-073	SP005642783	CY8C3446LTI-073	PG-VQFN-48-804	
CY8C3446LTI-085	SP005642791	CY8C3446LTI-085	PG-VQFN-68-801	
CY8C3665LTI-044	SP005642801	CY8C3665LTI-044	PG-VQFN-68-801	
CY8C3666AXI-036	SP005642813	CY8C3666AXI-036	PG-TQFP-100-801	
CY8C3666LTI-027	SP005642827	CY8C3666LTI-027	PG-VQFN-68-801	
CY8C3865AXI-019	SP005642843	CY8C3865AXI-019	PG-TQFP-100-801	
CY8C3866AXI-039	SP005642855	CY8C3866AXI-039	PG-TQFP-100-801	
CY8C3866AXI-208	SP005642867	CY8C3866AXI-208	PG-TQFP-100-801	
CY8C3866LTI-068	SP005642885	CY8C3866LTI-068	PG-VQFN-48-804	

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Affected products sold to FUTURE ELECTRONICS LTD. (4049887)

Sales name	SP number	OPN	Package	Customer part number
CG7984AAT	SP005646763	CG7984AAT	PG-TQFP-100-801	CG7984AAT, CG7984AAT/KATEK
CY8C3666AXI-037	SP005642817	CY8C3666AXI-037	PG-TQFP-100-801	CY8C3666AXI-037
CY8C3666LTI-027	SP005642827	CY8C3666LTI-027	PG-VQFN-68-801	
CY8C3666LTI-203	SP005642839	CY8C3666LTI-203	PG-VQFN-68-801	CY8C3666LTI-203
CY8C3865LTI-014	SP005642847	CY8C3865LTI-014	PG-VQFN-68-801	CY8C3865LTI-014
CY8C3866AXI-040	SP005642859	CY8C3866AXI-040	PG-TQFP-100-801	CY8C3866AXI-040