

Product/process change notification

PCN N° 2022-042-A

Dear customer,

Please find attached our Infineon Technologies AG PCN:

Capacity extension for dedicated Gen10.2 and Gen12.7 products by introduction of additional wafer manufacturing site at Infineon Technologies Dresden, Germany

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 **2022-04-26**
- 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.



On 16 April 2020, Infineon acquired Cypress.
We are now in the process of merging and consolidating our tools and processes for PCN, Information Notes, Errata and Product Discontinuance.
For further details, please visit our website:
<https://www.infineon.com/cms/en/about-infineon/company/cypress-acquisition/>

Infineon Technologies AG
Postal Address Headquarters: Am Campeon 1-15, D-85579 Neubiberg, Phone +49 (0)89 234-0
Chairman of the Supervisory Board: Dr. Wolfgang Eder
Management Board: Dr. Reinhard Ploss (CEO), Dr. Helmut Gassel, Jochen Hanebeck, Constanze Hufenbecher, Dr. Sven Schneider
Registered Office: Neubiberg
Commercial Register: München HRB 126492

Product/process change notification

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■ Products affected

Please refer to attached affected product list 1_cip22042_a

■ Detailed change information

Subject Capacity extension for dedicated Gen10.2 and Gen12.7 products by introduction of additional wafer manufacturing site at Infineon Technologies Dresden, Germany

Reason Extension of wafer manufacturing sites for additional capacity to ensure continuity of supply and flexible manufacturing

Description

Wafer Production Location

<u>Old</u>	<u>New</u>
<ul style="list-style-type: none"> ■ Newport Wafer Fab Ltd. (NWF Ltd.), United Kingdom ■ Vanguard International Semiconductor Corporation, Taiwan ■ Tower Semiconductor Ltd., Israel 	<ul style="list-style-type: none"> ■ Existing Wafer Production Locations see “old” ■ Infineon Technologies Dresden GmbH, Germany

■ Product identification

Internal and external traceability is assured via baunumber, country of diffusion, and wafer lot number

■ Impact of change

NO change on electrical, thermal parameters and reliability as proven via product qualification and characterization

NO change in existing datasheet parameters

NO change in quality and reliability. Processes are optimized to meet product performance according to already applied Infineon specification

■ Attachments

1_cip22042_a	affected product list
2_cip22042_a	qualification report

Product/process change notification

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■ Time schedule

- | | |
|------------------------------|--|
| ■ Final qualification report | available |
| ■ First samples available | on request |
| ■ Intended start of delivery | 2022-07-01 (or earlier based on customer approval) |

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

Capacity extension for dedicated Gen10.2 and Gen12.7 products by introduction of additional wafer manufacturing site at Infineon Technologies Dresden, Germany

Reason for choosing the following test vehicles:

IRFB7430PBF	Large Die, TO-220*	Thru-hole
IRFS7430PBF	Large Die, 3L D2PAK/TO-263	Surface Mount
IRFS7430-7PPBF	Large Die, 7L D2PAK/TO-263	Surface Mount
IRFR7440PBF	Small Die, DPAK/TO-252	Surface Mount
IRL40B209	Large Die, TO-220*	Thru-Hole
IRFR7446PBF	Smallest Die, DPAK	Surface Mount
IRFH7440PBF	Small Die, 5x6 POFN	Surface Mount
IRFB7530PBF	Large Die, TO-220*	Thru-Hole
IRFS7530-7PPBF	Large Die, 7L D2PAK/TO-263	Surface Mount
IRFS7530PBF	Large Die, 3L D2PAK/TO-263	Surface Mount

Scope of qualification: Gen 12.7 Technology Transfer to Dresden Fab

Assessment of Q-Results: Pass
 *Note: MSL and Preconditioning not done on Thru-Hole devices

Stress test	Abbreviation	Test conditions	Readout	IRFB7430PBF	IRFS7430PBF	IRFS7430-7PPBF	IRFR7440PBF	IRL40B209	IRFR7446PBF	IRFH7440PBF	IRFB7530PBF	IRFS7530-7PPBF	IRFS7530PBF
MSL Preconditioning JESD22-A113	PC	MSL 1	0h	fails / stressed	fails / stressed	fails / stressed	fails / stressed	fails / stressed	fails / stressed	fails / stressed	fails / stressed	fails / stressed	fails / stressed
Temperature Humidity Bias JESD22-A101	THB	with preconditioning T = 85°C, RH = 85% Vds = 80% V	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
Temperature Humidity Bias JESD22-A101	THB	with preconditioning T = 85°C, RH = 85% Vds = 100% V	1000 h	--	--	0 / 231 (3 lots x 77)	--	--	--	--	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
Temperature Cycling JESD22-A104	TC	with preconditioning -55°C to 150°C	1000 x	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
Unbiased Temperature/Humidity JESD22-A118	UHASt	with preconditioning Ta = 130°C, RH = 85%	96 h	--	--	--	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
Autoclave JESD22-A102	AC	with preconditioning Ta = 121°C RH = 100%	96 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	--	0 / 231 (3 lots x 77)	--	--	--	--	--
High Temperature Reverse Bias JESD22-A108	HTRB	Tj = Tj max VCE = 80% VCE max	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
High Temperature Reverse Bias JESD22-A108	HTRB	Tj = Tj max VCE = 100% VCE max	1000 h	--	--	0 / 231 (3 lots x 77)	--	--	--	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
High Temperature Gate Stress/Bias JESD22-A108	HTGS/HTGB	Ta = Max °C Vgs = 80% V	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
High Temperature Gate Stress/Bias JESD22-A108	HTGS/HTGB	Ta = Max °C Vgs = 100% V	1000 h	--	--	0 / 231 (3 lots x 77)	--	--	--	0 / 231 (3 lots x 77)	--	--	--
Intermitted Operational Life Test MIL-STD 750/Meth.1037	IOL	with preconditioning Delta T = 100 K Ton = 3 min Toff = 2 min n = 12000 cyc	1000 h	--	--	--	--	--	--	0 / 231 (3 lots x 77)	--	--	--
Intermitted Operational Life Test MIL-STD 750/Meth.1037	IOL	with preconditioning Delta T = 100 K Ton = 3.5 min Toff = 3.5 min n = 8572 cyc	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	--	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	--	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
Intermitted Operational Life Test MIL-STD 750/Meth.1037	IOL	with preconditioning Delta T = 100 K Ton = 2 min Toff = 2 min n = 15000 cyc	1000 h	--	--	--	0 / 231 (3 lots x 77)	--	0 / 231 (3 lots x 77)	--	--	--	--

RESTRICTED

Qualification Test Report



PCN N° 2022-042-A

Date: 2022-01-14

Capacity extension for dedicated Gen10.2 and Gen12.7 products by introduction of additional wafer manufacturing site at Infineon Technologies Dresden, Germany

Reason for choosing the following test vehicles:

IRF2804S-7PPBF	Large Die, 7L D2PAK/TO-263-7	Surface-Mount
IRF2804SPBF	Large Die 3L D2PAK/TO-263-3	Surface-Mount
IRF2804PBF	Large Die, TO-220*	Thru-Hole
IRF3710ZPBF	High Voltage, TO-220*	Thru-Hole
IRFR3710ZPBF	High Voltage, DPAK/TO-252	Surface-Mount
IRF3710ZSPBF	High Voltage, 3L D2PAK/TO-263-7	Surface-Mount

Scope of qualification: Gen 10.2 Technology Transfer to Dresden Fab

Assessment of Q-Results: Pass
 *Note: MSL and Preconditioning not done on Thru-Hole Devices

Stress test	Abbreviation	Test conditions	Readout	IRF2804S-7PPBF	IRF2804SPBF	IRF2804PBF	IRF3710ZSPBF	IRFR3710ZPBF	IRF3710ZPBF
				fails / stressed	fails / stressed	fails / stressed	fails / stressed	fails / stressed	fails / stressed
MSL Preconditioning JESD22-A113	PC	MSL 1	0h	0 / 1177	0 / 1177	N/A*	0 / 715	0 / 946	N/A*
Temperature Humidity Bias JESD22-A101	THB	with preconditioning T = 85°C; RH = 85% Vds = 80% V	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
Temperature Humidity Bias JESD22-A101	THB	with preconditioning T = 85°C; RH = 85% Vds = 100% V	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	--	--
Temperature Cycling JESD22-A104	TC	with preconditioning -55°C to 150°C	1200 x	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	Referenced by IRF2804SPBF	0 / 231 (3 lots x 77)	Referenced by IRF2804PBF
Unbiased Temperature/Humidity JESD22-A118	UHAST	with preconditioning Ta = 130°C, RH = 85%	96 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
High Temperature Reverse Bias JESD22-A108	HTRB	Tj = Tj max Vds = 80% Vds max	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)
High Temperature Reverse Bias JESD22-A108	HTRB	Tj = Tj max Vds = 100% Vds max	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	--	--
High Temperature Gate Stress/Bias JESD22-A108	HTGS/HTGB	Ta = Max °C Vgs = 80% V	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	Referenced by IRF2804SPBF	0 / 231 (3 lots x 77)	Referenced by IRF2804PBF
High Temperature Gate Stress/Bias JESD22-A108	HTGS/HTGB	Ta = Max °C Vgs = 100% V	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	--	--	--
Intermittent Operational Life Test MIL-STD 750/Meth.1037	IOL	with preconditioning Delta T = 100 K Ton = 3.5 min Toff = 3.5 min n = 15000 cvc	1000 h	--	--	--	--	0 / 231 (3 lots x 77)	--
Intermittent Operational Life Test MIL-STD 750/Meth.1037	IOL	with preconditioning Delta T = 100 K Ton = 3.5 min Toff = 3.5 min n = 8572 cvc	1000 h	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	0 / 231 (3 lots x 77)	--	--	Referenced by IRF2804PBF

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Affected products sold to DIGI-KEY (4002348)

Sales name	SP number	OPN	Package	Customer part number
IRF3805STRL-7PP	SP001554002	IRF3805STRL-7PP	PG-TO263-7-900	IRF3805STRL-7PP
IRF60R217	SP001559662	IRF60R217	PG-TO252-3-901	IRF60R217
IRFH7440TRPBF	SP001565996	IRFH7440TRPBF	PG-TDSON-8-907	IRFH7440TRPBF
IRFH7446TRPBF	SP001577894	IRFH7446TRPBF	PG-TDSON-8-907	IRFH7446TRPBF
IRFS3207TRLPBF	SP001578312	IRFS3207TRLPBF	PG-TO263-3-901	IRFS3207TRLPBF
IRFS3207TRLPBF	SP001578312	IRFS3207TRLPBF	PG-TO263-3-904	IRFS3207TRLPBF
IRL1404ZPBF	SP001576516	IRL1404ZPBF	PG-TO220-3-904	IRL1404ZPBF
IRL1404ZSTRLPBF	SP001557974	IRL1404ZSTRLPBF	PG-TO263-3-901	IRL1404ZSTRLPBF
IRL1404ZSTRLPBF	SP001557974	IRL1404ZSTRLPBF	PG-TO263-3-904	IRL1404ZSTRLPBF
IRL40SC209	SP001568434	IRL40SC209	PG-TO263-7-901	IRL40SC209
IRL40SC228	SP001550368	IRL40SC228	PG-TO263-7-901	IRL40SC228