

Product/process change notification

PCN N° 2022-068-A

Dear customer,

Please find attached our Infineon Technologies AG PCN:

Introduction of an additional wafer production site at Infineon Technologies (Kulim) Sdn. Bhd., Kulim, Malaysia for EC4_650V and implementation of IGBT3 600V Kulim for discrete Products in Advanced Isolation package PG-HSIP247-3-1

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 **2023-03-29**
- 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.

Infineon Technologies AG

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Chairman of the Supervisory Board Dr. Wolfgang Eder

Management Board Jochen Hanebeck (CEO), Constanze Hufenbecher, Dr. Sven Schneider, Andreas Urschitz, Dr. Rutger Wijburg

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► **Products affected**

Please refer to attached affected product list “pcn_2022-068-A_[customer-no].pdf”

► **Detailed change information**

Subject Introduction of an additional FE wafer site production

Reason Capacity extension and implementation of a 2nd source

Description
Wafer production and test site

<u>Old</u>	<u>New</u>
<ul style="list-style-type: none"> Infineon Technologies Austria AG, Villach 	<ul style="list-style-type: none"> Infineon Technologies (Kulim) Sdn. Bhd., Kulim or Infineon Technologies Austria AG, Villach

► **Product identification**

Internal traceability assured via lot code and development code. External traceability assured via Product Bar Code Label / Lot Code

► **Impact of change**

No Impact on parameters and reliability as proven via product qualification. Processes are optimized to meet identical product performance according to already applied Infineon specifications. Datasheet will be available either on www.infineon.com or at your local sales office.

► **Attachments**

“pcn_2022-068-A_[customer-no].pdf” 2_cip22068_a	affected product list qualification report
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► Time schedule

■ Final qualification report	available
■ First samples available	on request
■ Intended start of delivery	2023-05-15 or earlier on specific customer request

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

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Qualification Test Report



2023-Jan-26

Qualification of 600 V TRENCHSTOP™ IGBT3 and 650 V Rapid 1 technologies from Kulim

Test vehicles:	IKFW40N60DH3E	Electrical & mechanical representative type
	IKFW60N60EH3	Electrical & mechanical representative type
	IKFW90N60EH3	Electrical & mechanical representative type
	IDFW40E65D1E	Electrical & mechanical representative type
Extension of qualification:	All 600 V TRENCHSTOP™ IGBT3 discrete products with IGBTs from FE Kulim 200 mm and 650 V Rapid 1 diodes from FE Kulim 200 mm, assembled in PG-TO247-3-AI package in Malacca.	
	All 650 V Rapid 1 single diode discrete products with diodes from FE Kulim 200 mm, assembled in PG-TO247-3-AI package at Malacca	
Assessment of Q-Results	Pass	

Stress test	Abbreviation	Conditions	Readout	IKFW40N60DH3E	IKFW60N60EH3	IKFW90N60EH3	IDFW40E65D1E
				fails / stressed	fails / stressed	fails / stressed	fails / stressed
Temperature Cycling JESD22 A104	TC	T _{min} = -55 °C T _{max} = +150 °C	1000 cyc	0 / 77	0 / 77	0 / 77	-
Unbiased High Accelerated Stress Test JESD22 A118	UHASt	T _a = 130°C RH = 85%	96 h	0 / 77	0 / 77	0 / 77	-
High Temperature Gate Bias JESD22 A108	HTGS	T _a = 175 °C V _{GE} = ±20	1000 h	0 / 77	0 / 77	0 / 77	-
High Temperature Reverse Bias JESD22 A108	HTRB	T _j = 175 °C V _{Stress} = 480 V	1000 h	0 / 77	0 / 77	0 / 77	-
High Temperature Reverse Bias JESD22 A108	HTRB	T _j = 175 °C V _{Stress} = 520 V	1000 h	-	-	-	0 / 77
High Humidity High Temp. Reverse Bias JESD22 A101	H3TRB	T _a = 85 °C RH = 85 % V _{Stress} = 80 V	1000 h	0 / 77	0 / 77	0 / 77	-
Intermitted Operational Life Test MIL-STD 750/Meth.1037	IOL	ΔT = 125 K	7500 cyc	0 / 77	0 / 77	0 / 77	0 / 77
ESD Characterization ANSI/ESDA/JEDEC JS-001	ESD-HBM	T _a = 25°C	-	Class 2 2000 V to <4000 V	Class 2 2000 V to <4000 V	Class 3A 4000 V to < 8000 V	Class 2 2000 V to <4000 V
ESD Characterization ANSI/ESDA/JEDEC JS-002	ESD-CDM	T _a = 25°C	-	Class C3 ≥ 1000 V	Class C3 ≥ 1000 V	Class C3 ≥ 1000 V	Class C3 ≥ 1000 V

Abbreviations: - not applicable

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Affected products sold to DIGI-KEY (4002348)

Sales name	SP number	OPN	Package	Customer part number
IKFW40N60DH3E	SP001502652	IKFW40N60DH3EXKS A1	PG-HSIP247-3	IKFW40N60DH3EXKSA1
IKFW50N60DH3	SP001672364	IKFW50N60DH3XKSA 1	PG-HSIP247-3	IKFW50N60DH3XKSA1
IKFW50N60DH3E	SP001502656	IKFW50N60DH3EXKS A1	PG-HSIP247-3	IKFW50N60DH3EXKSA1
IKFW60N60DH3E	SP001502658	IKFW60N60DH3EXKS A1	PG-HSIP247-3	IKFW60N60DH3EXKSA1
IKFW90N60EH3	SP001502666	IKFW90N60EH3XKSA 1	PG-HSIP247-3	IKFW90N60EH3XKSA1