Product/process change notification

PCN N° 2022-054-A

Dear customer,

Please find attached our Infineon Technologies AG PCN:

Introduction of Infineon Technologies (Kulim) Sdn. Bhd as an additional wafer production site for Discrete TrenchstopTM Reverse Conducting (RCD2) products in 600V and HYME as additional BE site for TO252 packages

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 **2023-01-24**
- 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
Postal address D-81726 München Internet www.infineon.com Headquarters Am Campeon 1-15, D-85579 Neubiberg Phone +49 (0)89 234-0
Chairman of the Supervisory Board Dr. Wolfgang Eder
Management Board Jochen Hanebeck (CEO), Constanze Hufenbecher, Dr. Sven Schneider, Andreas Urschitz, Dr. Rutger Wijburg
Registered office Neubiberg Commercial register Amtsgericht München HRB 126492

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▸ Products affected

Please refer to attached affected product list
“pcn_2022-054-A_[*customer-no*].pdf”

▸ Detailed change information

Subject

Implementation of FE KULIM for the RCD2 600V and HYME as BE for TO252

Reason

Capacity extension and implementation of a 2nd source.

Description

Old	New
■ Infineon Technologies Austria AG, Villach	■ Infineon Technologies (Kulim) Sdn. Bhd., Kulim or Infineon Technologies Austria AG, Villach
■ Infineon Technologies (Malaysia) Sdn. Bhd., Melaka, Malaysia ■ ATX Semiconductor (Weihai) Co. Ltd. China	■ Infineon Technologies (Malaysia) Sdn. Bhd., Melaka, Malaysia ■ ATX Semiconductor (Weihai) Co. Ltd. China ■ Huayi Microelectronics Co., Ltd ■ (HYME), China

▸ 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.

▸ Attachments

“pcn_2022-054-A [*customer-no*].pdf” affected product list
2_cip22052_A Qualification report

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Time schedule

Final qualification report	available
First samples available	on request
Intended start of delivery	2023-03-30 or earlier on customer demand

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

RESTRICTED

Qualification Test Report

2022-Oct-21

Introduction of an additional wafer production site at Infineon Technologies (Kulim) Sdn. Bhd., Kulim, Malaysia for 600V RCD2 technology

Test vehicles:	IKD04N60RC2	Electrical & mechanical representative type
	IKD15N60RC2	Electrical & mechanical representative type
	IKN01N60RC2	Electrical & mechanical representative type
	IKN06N60RC2	Electrical & mechanical representative type
Extension of qualification:	600V RCD2 discrete products with FE Kulim 200 mm in PG-TO252-3 and SOT223-3 packages	
Assessment of Q-Results	Pass	

Stress test	Abbreviation	Conditions	Duration	IKD04N60RC2	IKD15N60RC2	IKN01N60RC2	IKN06N60RC2
				fails / stressed	fails / stressed	fails / stressed	fails / stressed
Pre-Conditioning J-STD020 / JESD22 A113	**Precon ***	MSL1 3x260 °C, Reflow	-	MSL1 3x260 °C, Reflow	MSL1 3x260 °C, Reflow	MSL1 3x260 °C, Reflow	MSL1 3x260 °C, Reflow
Temperature Cycling JESD22 A104	**TC**	Ta_{min} = -55°C Ta_{max} = +150°C	1000 cyc	0 / 77	0 / 77	0 / 77	0 / 77
Unbiased High Accelerated Stress Test JESD22 A118	**UHAST**	Ta = 130°C RH = 85%	96 h	0 / 77	0 / 77	0 / 77	0 / 77
High Temperature Gate Bias JESD22 A108	**HTGS**	Ta = 175°C (for RCD2 in TO252) Ta = 150°C (for RCD2 in SOT223) V_{GE} = ±20	1000 h	0 / 77	0 / 77	0 / 77	0 / 77
High Temperature Reverse Bias JESD22 A108	**HTRB**	Tj = 175°C (for RCD2 in TO252) Tj = 150°C (For RCD2 SOT223) V_{Stress} = 480V	1000 h	0 / 77	0 / 77	0 / 77	0 / 77
High Humidity High Temp. Reverse Bias JESD22 A101	**H3TRB**	Ta = 85°C RH = 85 % V_{Stress} = 80V	1000 h	0 / 77	0 / 77	0 / 77	0 / 77
Intermitted Operational Life Test MIL-STD 750/Meth.1037	**IOL**	ΔT = 100K	15000 cyc	0 / 77	0 / 77	0 / 77	0 / 77
ESD Characterization ANSI/ESDA/JEDEC JS-001	**ESD-HBM**	Ta = 25°C	-	Class 1B: 500V to < 1000V	Class 2: 2000V to < 4000V	Class 0B: 125V to < 250V	Class 1C: 1000V to < 2000V
ESD Characterization ANSI/ESDA/JEDEC JS-002	**ESD-CDM**	Ta = 25°C	-	Class C3: ≥ 1000V	Class C3: ≥ 1000V	Class C3: ≥ 1000V	Class C3: ≥ 1000V

*** Precon is done for SMD packages before TC, UHST, IOL and H3TRB stress tests**

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Affected products sold to FUTURE ELECTRONICS INC. (4000624)

Sales name	SP number	OPN	Package	Customer part number
IKD04N60RC2	SP004542900	IKD04N60RC2ATMA1	PG-TO252-3-313	IKD04N60RC2ATMA1