

Product/process change notification

PCN N° 2021-178-A3

Dear customer,

Please find attached our Infineon Technologies AG PCN:

Introduction of alternate lead frame base material affecting TSNP 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 **2022-07-20**
- 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

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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

Registered office Neubiberg Commercial register Amtsgericht München HRB 126492

Product/process change notification

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- ▶ **Products affected** Please refer to attached affected product list 1_cip21178_A3

- ▶ **Detailed change information**

Subject	Introducing new lead frame base material C7025 at JCET, which is already a qualified material for Infineon product, to assure supply continuity.	
Reason	JCET Group's lead frame supplier, HAESUNG DS CO., LTD. (HDS), has announced discontinuation of supplying lead frame with EFTEC as base material.	
Description	<u>Old</u>	<u>New</u>
	<ul style="list-style-type: none"> ■ LF base material = <li style="text-align: center;">EFTEC64T 	<ul style="list-style-type: none"> ■ LF base material = <li style="text-align: center;">EFTEC64T <i>or</i> C7025

- ▶ **Product identification** Internal traceability ensured via lot number & date code.
No change in SP ordering number.

- ▶ **Impact of change** **No** change on package outline dimensions
No impact on solderability, thermal and electrical parameters
No impact on quality, function and reliability as proven in process qualification

- ▶ **Attachments**

1_cip21178_A3	affected product list
2_cip21178_A3	qualification test report
3_cip21178_A3	additional information

- ▶ **Time schedule**

■ Final qualification report	available
■ First samples available	available
■ Intended start of delivery	2022-09-30 or earlier, depending on customer acceptance

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



Qualification Report

Date:
2022-04-06

Qualification results

JCET - Alternative Cu Base Material C7025

Qualification of alternate Cu base material for business ramp up stability

Qualification result: pass

Products				IRS9100C	IRS9100C	BGA9V1MN9	BGA9V1MN9	BGA 5M1BN6	BGA 5M1BN6	Test Location	Remarks
Wafer Technology/ Location				C11HV2 / Dresden / Rbg	C11HV2 / Dresden / Rbg	B11HV / Dresden	B11HV / Dresden	B9HFCL / Rbg	B9HFCL / Rbg		
Basic Type				M2465A	M2465A	M6910	M6910	T2814A	T2814A		
Cu base material				C7025	EFTEC 64	C7025	EFTEC 64	C7025	EFTEC 64		
Package type				PG-TSNP-10-4	PG-TSNP-10-4	PG-TSNP-9	PG-TSNP-9	PG-TSNP-6-10	PG-TSNP-6-10		
Assembly Location				JCET	JCET	JCET	JCET	JCET	JCET		
Q-Lot / Lot No.				Q-Lot #1	Ref-Lot #1	Q-Lot #3	Ref-Lot #3	Q-Lot #2	Ref-Lot #2		
Test description	Abbr.	Condition	Readout	fails / tested samples	fails / tested samples	fails / tested samples	fails / tested samples	fails / tested samples	fails / tested samples		
High Temperature Storage Life JESD22 A-103D	HTSL	Ta = 150°C	0h 168h 500h 1000h	0/77	0/77	0/77	0/77	0/77	0/77	JCET	
Electrical Parameter Assessment JESD86A	ED	Ta= -40°/25°/ 85° (Ta=-55°C/ +125°C/150°C)		--	--	10	--	10	--	Linz	
MSL Preconditioning JESD22-A113F	PC	MSL-1: Ta=85°C; r.h.=85% t = 168h 3 x reflow at 260°C	-	0/154	0/154	0/154 (JCET) 0/40 (RGB)	0/154 (JCET) 0/20 (RGB)	0/154	0/154	JCET/Rbg	
Temperature Humidity Biased JESD22-A110	HAST	w/ PC Ta = 130°C r.h. = 85% V = Vccmax	0h 96h	-	-	0/40	0/20	-	-	Rbg	
Temperature Cycling JESD22-A104D	TC	Preconditioning Ta=-55°C to 150°C 1000 cycles 30' per cycle	0x 100x 500x 1000x	0/77	0/77	0/77	0/77	0/77	0/77	JCET	
Accelerated Moisture Resistance - Unbiased HAST JESD22-A118A	UHAST	Preconditioning Ta = 130°C r.h. = 85%	0h 96h	0/77	0/77	0/77	0/77	0/77	0/77	JCET	
Internal Physical Inspection	IPI	after 1000h HTSL	-	5	5			5	5	JCET	
Internal Physical Inspection	IPI	after 96h HAST	-			5				FA5 (Muc)	
Internal Physical Inspection	IPI	after 500x TC	-					5	5	JCET	
Internal Physical Inspection	IPI	after 1000x TC	-	5	5			5	5	JCET	
Die Shear MIL-STD-883 Method 2019	DS		-								not required by JESD47
Internal Physical Inspection	IPI	after 96h UHAST	-	5	5			5	5	JCET	
Remarks											

Department:
IFAG PSS QM RFS

Author:
Schwirllich Andreas



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Introduction of alternate lead frame base material affecting TSNP products

Sales name	SP number	OPN	Package
BGA 824N6 E6329	SP002478900	BGA824N6E6329XTSA1	TSNP-6-10
BGA 824N6 E6327	SP001079364	BGA824N6E6327XTSA1	TSNP-6-2

Customer Information Package

PCN 2021-178-A3

3_cip21178_A3

Introduction of alternate lead frame base material
affecting TSNP products



Motivation and scope of change

- › JCET Group's lead frame supplier, HAESUNG DS CO., LTD. (HDS), has announced discontinuation of supplying lead frame with EFTEC as base material.
 - Introducing new lead frame base material C7025 at JCET, which is already a qualified material for Infineon product, to assure supply continuity.

- › Affected are all TSNP products currently being introduced and produced at JCET Group Co., Ltd, Jiangyin, China.

Current	New
LF base material = EFTEC64T	LF base material = EFTEC64T or C7025

- **NO** change on LF geometry design and plating structure
- **NO** change to products form, fit and function

Material properties comparison

Alloy	Physical Properties								
	Temper	Density	Thermal Expansion (x10e-6/c)	Thermal Conductivity 1W/mK	Electrical Conductivity (%IACS)	Tensile Strength (KgF/sq-mm)	Elongation (Min %)	Hardness (HV)	BEND TEST (No. of bend @ 90 Deg)
		(gm/cu-cm)				/(N/sq-mm)			
C7025	1/2 H	8.8	17.3	0.41	Min 40	62 - 72	Min 6	180 - 220	-
EFTEC64T	1/2H	8.9	17.0	0.72	Min 70	50 ~ 60	Min 10	160 - 195	

Material	Chemical Composition (%)									
	Cu	Fe	P	Zn	Pb	Ni	Si	Mg	Cr	Sn
C7025	Bal.	-	-	-	-	2.20~4.20	0.25~1.20	0.05~0.30	-	-
EFTEC64T	Bal.	-	-	0.18~0.26	-	-	-	-	0.20~0.30	0.23~0.27

Notification from LF base material supplier



HAESUNG DS CO., LTD.
(Haesung 2nd Bldg) #F 308, Taheran-ro
Gangnam-gu, Seoul 125-725, Korea
Tel : +82-70-4741-0067 / Fax: +82-70-4741-0088

Notification for Discontinuation of Furukawa's Material Supply

Dear JCET Group,

We first convey our deepest gratitude toward your continued support and opportunity which have resulted in successful business so far.

Today, we give you a notice regarding the raw materials. We was informed that Furukawa, a Japanese raw material manufacturers, could not receive additional orders of raw material. It is currently impossible to estimate when the order will be received again. Accordingly, the most affected material is EFTEC material, and we are currently supplying some EFTEC material products to JCET.

We truly apologize that share the news of the sudden discontinuation. We have looked for other ways, but at present we have not found a way to be provided with EFTEC materials.

Accordingly, we request to change the raw material from EFTEC to C194, C7025 for the several affected products. Under the current circumstances, if the raw material is not changed, additional orders for the models can no longer be accepted.

Once again, we apologize to notice the bad news. Please check, and if there is any progress in this situation, we will share it with you right away.

Looking forward to your warm understanding and contact us if any question or inquiry. Thank you.

Yours Sincerely,



Simon Jang
Senior Director / Lead Frame Sales

- › Furukawa informed HDS will stop to supply base material EFTEC64T,
- › Furukawa is the single source HDS can buy EFTEC64T



Part of your life. Part of tomorrow.