PRODUCT / PROCESS CHANGE INFORMATION

1. PCI basic data		
1.1 Company		STMicroelectronics International N.V
1.2 PCI No.		ADG/22/13561
1.3 Title of PCI		H²PAK-2 Leads (Pins) Modification
1.4 Product Category		see list
1.5 Issue date		2022-07-26

2. PCI Team	
2.1 Contact supplier	
2.1.1 Name	ROBERTSON HEATHER
2.1.2 Phone	+1 8475853058
2.1.3 Email	heather.robertson@st.com
2.2 Change responsibility	
2.2.1 Product Manager	Mario ASTUTI,Stephane CHAMARD
2.1.2 Marketing Manager	Michele SCUTO,Philippe LEGER
2.1.3 Quality Manager	Diego Maria FERRARI,Jean-Paul REBRASSE

3. Change		
3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Materials	New direct material part number r (same supplier, different supplier or new supplier),(Lead frame dimensions)	ST Shenzhen - China

4. Description of change		
	Old	New
4.1 Description	See enclosed details	See enclosed details
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No Impact	

5. Reason / motivation for change	
5.1 Motivation	Quality improvement
5.2 Customer Benefit	QUALITY IMPROVEMENT

6. Marking of parts / traceability of change	
6.1 Description	Date code

7. Timing / schedule	
7.1 Date of qualification results	2022-07-06
7.2 Intended start of delivery	2022-10-06
7.3 Qualification sample available?	Not Applicable

8. Qualification / Validation			
8.1 Description	13561 Validation report.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2022-07-26

9. Attachments (additional documentations)

13561 Public product.pdf
13561 Validation report.pdf
13561 Details.pdf

10. Affected parts		
10. 1 Current		10.2 New (if applicable)
10.1.1 Customer Part No	10.1.2 Supplier Part No	10.1.2 Supplier Part No
	SCT20N120H	
	SCT30N120H	
	STBR3008G2Y-TR	
	STBR3012G2-TR	
	STBR3012G2Y-TR	
	STGH30H65DFB-2AG	
	STH10N80K5-2AG	
	STH12N120K5-2	
	STH13N120K5-2AG	
	STH140N8F7-2	
	STH145N8F7-2AG	
	STH150N10F7-2	
	STH160N4LF6-2	
	STH170N8F7-2	
	STH180N10F3-2	
	STH200N10WF7-2	
	STH22N95K5-2AG	
	STH240N10F7-2	
	STH260N6F6-2	
	STH270N8F7-2	
	STH275N8F7-2AG	
	STH290N4F6-2AG	
	STH2N120K5-2AG	
	STH310N10F7-2	
	STH315N10F7-2	
	STH3N150-2	
	STH410N4F7-2AG	
	STH47N60DM6-2AG	
	STH6N95K5-2	
	STPSC10065G2-TR	
	STPSC10H065G2-TR	
	STPSC10H12G2-TR	
	STPSC10H12G2Y-TR	
	STPSC12065G2-TR	
	STPSC12065G2Y-TR	
	STPSC15H12G2-TR	
	STPSC15H12G2Y-TR	
	STPSC20H12G2-TR	
	STPSC20H12G2Y-TR	
	STPSC8H065G2Y-TR	
	STTH15RQ06G2-TR	
	STTH15RQ06G2Y-TR	
	STTH30RQ06G2-TR	
	STTH30RQ06G2Y-TR	
	TN4050HP-12G2YTR	

	SCT10N120H	

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Automotive Discrete Group (ADG)
Discrete & Filter Division
Power Transistor Division
Low voltage & ST-IGAN Division

CUSTOMER NOTIFICATION

H²PAK-2 (also called D²PAK HV) Leads (Pins) modification at ST Shenzhen plant in China

INVOLVED PRODUCTS: **Refer to list attached at the end of document**

Dear Customer,

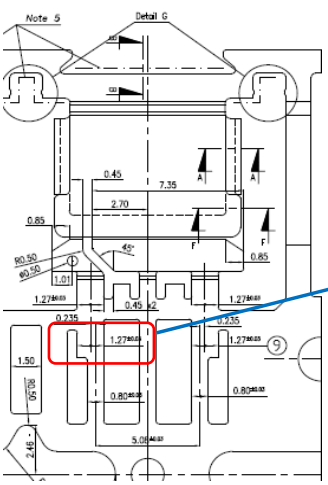
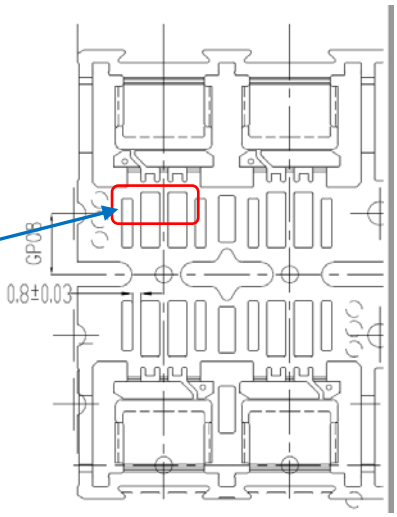
Following the continuous improvement of our quality performance, we would like to inform you about the Leads (pins) modification of H²PAK-2 (also called D²PAK HV) devices aimed to eradicate Tin burr risk due to frame lead design.

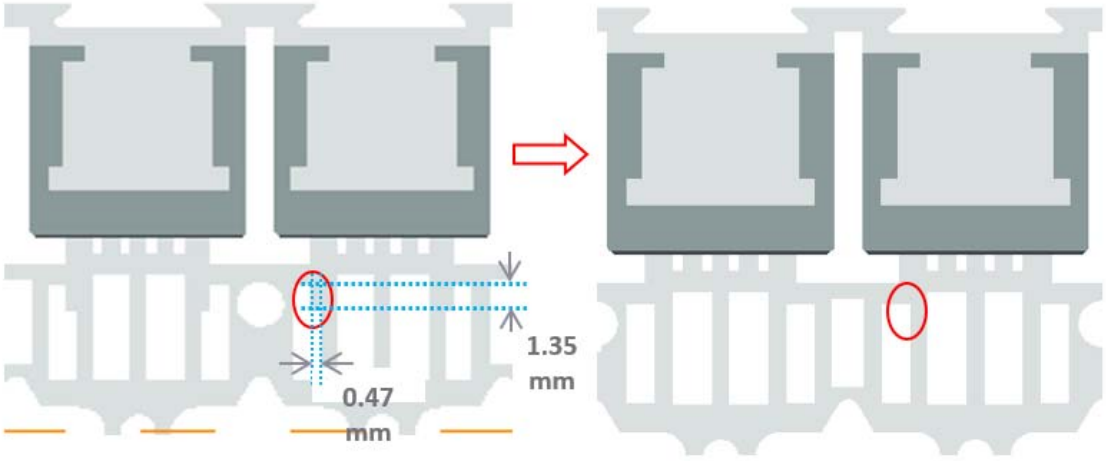
Please note that same minor modification of lead design also introduced in Y2013 for D²PAK lead frames (PIL CRP/13/8135 - Dated 04 Oct 2013).

In the next pages, we are reporting all the details of the change and the plan to release it in production.

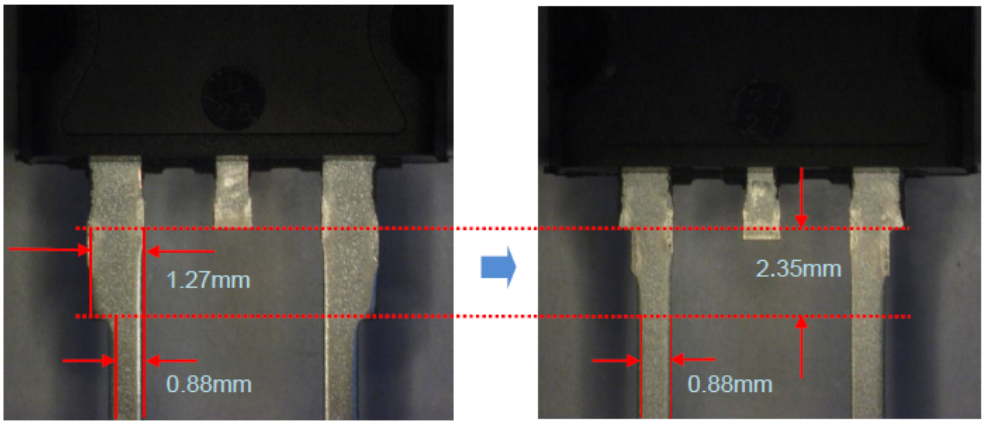
Sincerely Yours.

Tech name	
ST Part number:	**ST Part-Numbers: Refer to Commercial Products list attached at the end of document.** **Package:** H²PAK-2 (also called D²PAK HV) **Plant**: ST Shenzhen plant - China
Reason and background of the change	To eradicate Tin burr risk due to lead frame design.
Detailed description of change(s), including affected type of changes	This change concerns a modification of lead design of H²PAK-2 (D²PAK HV) at ST Shenzhen Back-End plant without changing materials, people, method, facilities, process flow, and controls. Below is the comparison between new frame design and former one.

Former	New
	

Former	New
	

Package Outline (POA) is not affected. Dimensions concerned by the proposed change are not specified in ST datasheets.

	Visual aids to illustrate the change: **Units after dam bar cutting, before forming** **Former design** | **New** 
Impact on form, fit, function, or reliability.	No impact on form, fit, function, or reliability with new lead-frame design.
Datasheet	No Impact
Benefit of the change	Quality improvement versus tin burr risk
Qualification Plan	Qualification results enclosed to this communication
Implementation date for change	Week 40-2022
Traceability Information	Data Code (no change of marking nor Finished Good/Type)

Involved Commercial part numbers	
STBR3008G2Y-TR	STH60N046DM9-2AG
STBR3012G2-TR	STH60N080DM9-2AG
STBR3012G2Y-TR	STH60N099DM9-2AG
STPSC10065G2-TR	STH65N050DM9-2AG
STPSC10H065G2-TR	STH6N95K5-2
STPSC10H12G2-TR	SCT10N120H
STPSC10H12G2Y-TR	SCT20N120H
STPSC12065G2-TR	SCT30N120H
STPSC12065G2Y-TR	SCTH1000N170
STPSC15H12G2-TR	SCTH1000N170AG
STPSC15H12G2Y-TR	STGH30H65DFB-2AG
STPSC16H065G2YTR	STH110N8F6-2
STPSC20H12G2-TR	STH140N8F7-2
STPSC20H12G2Y-TR	STH145N8F7-2AG
STPSC30G065G2Y	STH14808-2
STPSC8H065G2Y-TR	STH150N10F7-2
STTH15RQ06G2-TR	STH160N4LF6-2
STTH15RQ06G2Y-TR	STH170N8F7-2
STTH30RQ06G2-TR	STH180N10F3-2
STTH30RQ06G2Y-TR	STH200N10WF7-2
STTH60RQ06G2Y-TR	STH200N12F7-2
TN3050H-12G2Y-TR	STH205N12F7-2AG
TN4050HP-12G2YTR	STH240N10F7-2
STH10N80K5-2AG	STH260N6F6-2
STH10N80K5-2HT	STH270N8F7-2
STH12N120K5-2	STH275N8F7-2AG
STH12N120K5-2AG	STH275N8F7-2HT
STH12N120K5-2HT	STH290N4F6-2AG
STH13N120K5-2AG	STH310N10F7-2
STH22N95K5-2AG	STH315N10F7-2
STH2N120K5-2AG	STH320N10F8-2AG
STH36N60DM6-2AG	STH410N4F7-2AG
STH3N150-2	STH410N4F7-2AGY
STH47N60DM6-2AG	STH80N10LF7-2AG
	STH80N10LF7-2HT

Public Products List

Publict Products are off the shelf products. They are not dedicated to specific customers, they are available through ST Sales team, or Distributors, and visible on ST.com

PCI Title : H²PAK-2 Leads (Pins) Modification

PCI Reference : ADG/22/13561

Subject : Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

STPSC20H12G2Y-TR	STTH15RQ06G2Y-TR	STPSC10H12G2Y-TR
STPSC15H12G2Y-TR	STTH30RQ06G2Y-TR	TN4050HP-12G2YTR
STH80N10LF7-2AG	STPSC8H065G2Y-TR	STH2N120K5-2AG
STH410N4F7-2AG	STH145N8F7-2AG	STH200N10WF7-2
STH160N4LF6-2	STPSC10065G2-TR	STH150N10F7-2
STH240N10F7-2	STPSC10H065G2-TR	STH170N8F7-2
STH140N8F7-2	STBR3012G2-TR	STH10N80K5-2AG
STH275N8F7-2AG	STBR3012G2Y-TR	STH6N95K5-2
STH47N60DM6-2AG	SCT30N120H	STH315N10F7-2
STPSC12065G2Y-TR	STPSC10H12G2-TR	STTH15RQ06G2-TR
STH260N6F6-2	STPSC12065G2-TR	STH270N8F7-2
STH13N120K5-2AG	STBR3008G2Y-TR	STH3N150-2
STH22N95K5-2AG	STPSC15H12G2-TR	STPSC20H12G2-TR
STTH30RQ06G2-TR	STH310N10F7-2	STH12N120K5-2
SCT20N120H	STH180N10F3-2	STGH30H65DFB-2AG
SCT10N120H		

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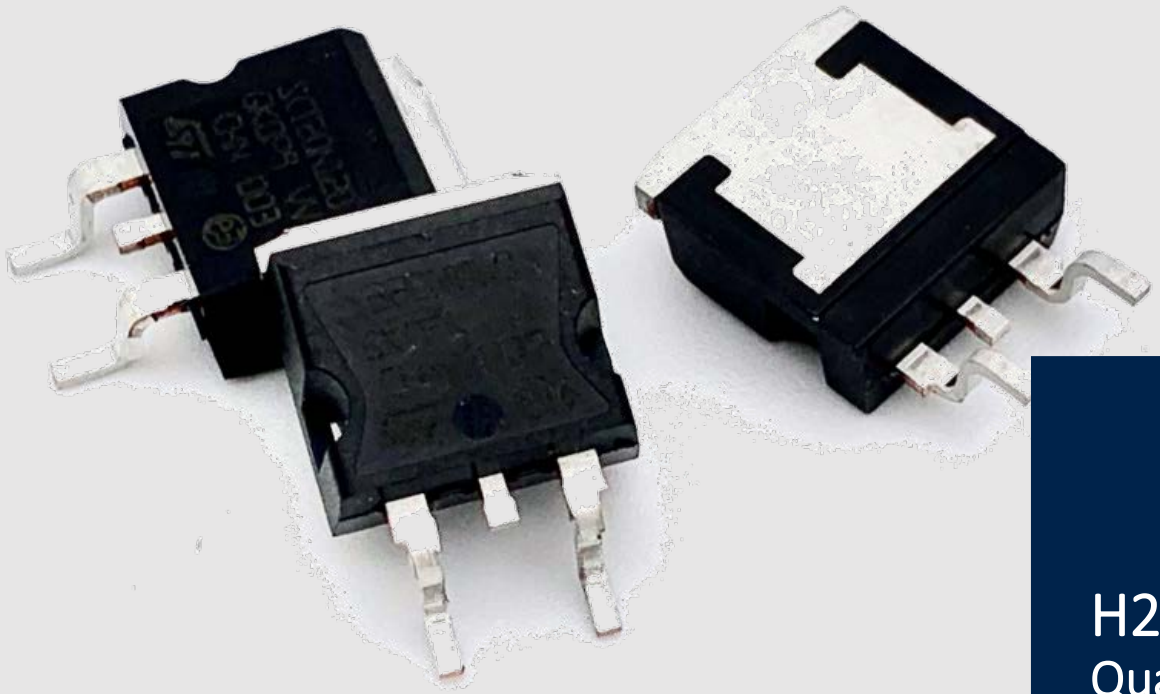

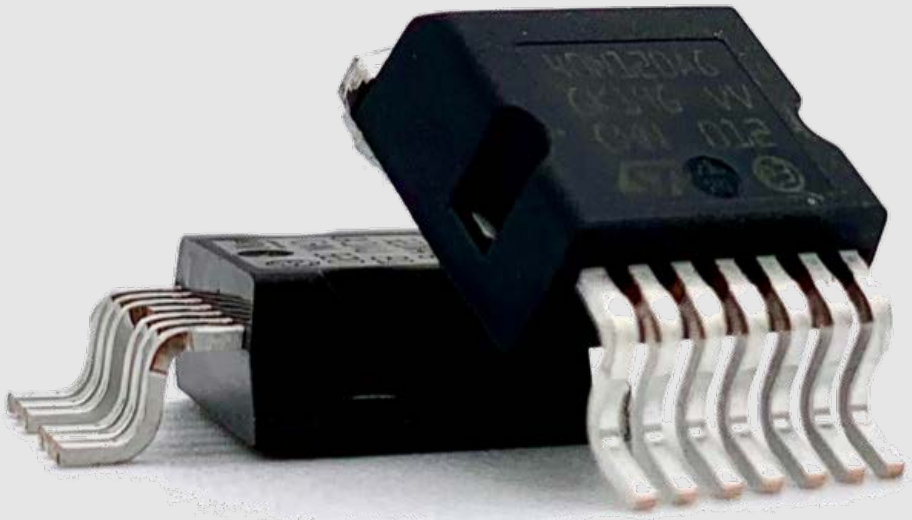

life.augmented

H2PAK Lead-Frame change to straight lead

Qualification results

Jul-2022

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Qualification Results (1/2)

1. 100% Visual inspection after wire bonding(frame crack/deformation/ribbon crack on lead) ---PASS

	sample size	VI Defect	Yield
DUMMY	2k	0%	100%

2. 100% visual inspection after cropping for burr issue) ---PASS

	sample size	lead burr	failure rate
DUMMY	2k	0	0%

3. Visual inspection result(based on POA) with 100% scanning(by testing visual) ---PASS

	sample size	Lead reject	failure rate
Dummy	2k	0	0%

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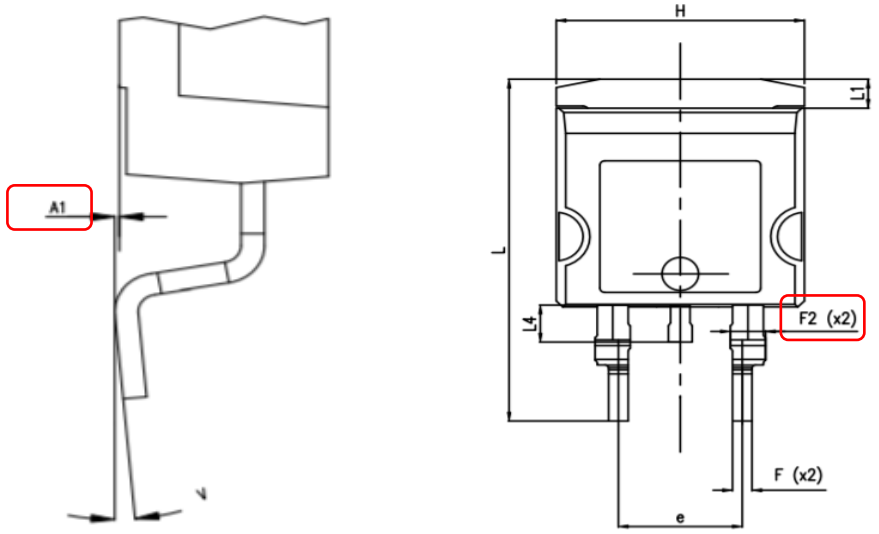
Qualification Results (2/2)

4.POA measurement results by smart scope (all within specification and in line with former) ---PASS

	Sample Size	Item	A1 (0.03mm~0.2mm)	F2 (1.14mm~1.7mm)
New	30 pcs	AVG.	0.141	1.347
		Min.	0.121	1.32
		Max.	0.166	1.37
Former	30pcs	AVG.	0.127	1.35
		Min.	0.116	1.33
		Max.	0.142	1.37



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