



Initial Product/Process Change Notification

Document #: IPCN22971X

Issue Date: 28 Nov 2019

Title of Change:	TO-247 Dual source qual in SHANTOU HUASHAN.
Proposed First Ship date:	28 May 2020 or earlier if approved by customer
Contact Information:	Contact your local ON Semiconductor Sales Office or Lisa.Wang@onsemi.com; Bokyun.Seo@onsemi.com
PCN Samples Contact:	Contact your local ON Semiconductor Sales Office or <PCN.samples@onsemi.com>. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Type of Notification:	This is an Initial Product/Process Change Notification (IPCN) sent to customers. An IPCN is an advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan. The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN). This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 90 days prior to implementation of the change. In case of questions, contact <PCN.Support@onsemi.com>
Marking of Parts/ Traceability of Change:	first line plant code is "SH" for HuaShan
Change Category:	Assembly Change, Test Change
Change Sub-Category(s):	Manufacturing Site Addition

Sites Affected:**ON Semiconductor Sites**

None

External Foundry/Subcon Sites

SHANTOU HUASHAN Electronic Devices Co., Ltd., China

Description and Purpose:

This Notification announces to customers ON Semiconductor's plans to do a dual source qualification of TO-247 parts to SHANTOU HUASHAN.

Upon expiration of FPCN approval cycle, these products will be from SHANTOU HUASHAN, China and ON Semiconductor Suzhou, China.

SHANTOU HUASHAN is currently running production for TO-247 package. Qualification tests are designed to show that the reliability of the transferred devices will continue to meet or exceed ON Semiconductor standards.

	Before Change Description	After Change Description
Die Attach	SLDR WIRE HER PB92.5SN5AG2.5	SLDR WIRE HER PB92.5SN5AG2.5 (ON Semiconductor, Suzhou) SLDR WIRE HER Sn80Ag20 (HUASHAN)
Mold Compound	SL-7300HFM; SG8200DL; EME 6600CS (ON Suzhou will change SL-7300HFM; SG8200DL to KTMC1050GFA after FPCN22647X approved)	SL-7300HFM; SG8200DL; EME 6600CS (ON Semiconductor, Suzhou) KTMC1050GFA (HUASHAN)
Assembly and Test site	ON Semiconductor Suzhou, China	ON Semiconductor Suzhou, China and HUASHAN

There is no product marking change as a result of this change.

**Qualification Plan:****QV DEVICE NAME:** FCH023N65S3-F155**RMS** : N/A**PACKAGE** : TO247

Test	Specification	Condition	Interval
HTRB	JESD22A108	Tj = 150C for device, bias = 100% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 150C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta = 150C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	- Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	85°C, 85% RH, V=80% rated V or 100V max. 1008 Hours	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta=245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta=265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A

QV DEVICE NAME: NTH027N65S3F-F155**RMS** : N/A**PACKAGE** : TO247

Test	Specification	Condition	Interval
HTRB	JESD22A108	Tj = 150C for device, bias = 100% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 150C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta = 150C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	- Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	85°C, 85% RH, V=80% rated V or 100V max. 1008 Hours	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta=245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta=265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A



QV DEVICE NAME: FGH40N60SMD

RMS : U60853

PACKAGE : TO247

Test	Specification	Condition	Interval
HTRB	JESD22A108	Tj = 175C for device, bias = 100% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 175C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta = 175C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	Temp = 85C, RH=85%, bias = 80% of rated V or 100V max	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta = +25°C, deltaTj = 100°C max, Ton = Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta = 245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta = 265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A

QV DEVICE NAME: FGH40T120SMD-F155

RMS : V57838

PACKAGE : TO247

Test	Specification	Condition	Interval
HTRB	JESD22A108	Tj = 175C for device, bias = 100% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 175C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta = 175C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	Temp = 85C, RH=85%, bias = 80% of rated V or 100V max	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta = +25°C, deltaTj = 100°C max, Ton = Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta = 245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta = 265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A



QV DEVICE NAME: HGTG11N120CND

RMS : S57839

PACKAGE : TO247

Test	Specification	Condition	Interval
HTRB	JESD22A108	Tj = 150C for device, bias = 80% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 150C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta = 150C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	- Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	85°C, 85% RH, V=80% rated V or 100V max. 1008 Hours	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta=245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta=265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A

Estimated date for qualification completion: **6 March 2020****List of Affected Parts:**

Note: Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the **PCN Customized Portal**.

Part Number	Qualification Vehicle
FGH40T65UPD	FGH40N60SMD
HGTG12N60C3D	FGH40N60SMD
FGH40T120SMD	FGH40T120SMD-F155
FGH40T120SMD-F155	FGH40T120SMD-F155
FGH15T120SMD-F155	FGH40T120SMD-F155
FGH25T120SMD-F155	FGH40T120SMD-F155
FGH40T100SMD	FGH40T120SMD-F155
FGH40T65SPD-F155	FGH40T120SMD-F155
FGH12040WD-F155	FGH40T120SMD-F155
HGTG11N120CND	HGTG11N120CND
FGH50T65UPD	HGTG11N120CND



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FGH25N120FTDS	HGTG11N120CND
FGH30T65UPDT-F155	HGTG11N120CND
FGH80N60FD2TU	FGH40N60SMDF
HGTG20N60B3D	FGH40N60SMDF
HGTG12N60A4D	FGH40N60SMDF
FGH40T100SMD-F155	FGH40N60SMDF
FGH40N60UFDU	FGH40N60SMDF
ISL9K3060G3	FGH40N60SMDF
FGH20N60UFDU	FGH40N60SMDF
FGH40N65UFDU	FGH40N60SMDF
FGH40T65SHD-F155	FGH40N60SMDF
FGH40T65UQDF-F155	FGH40N60SMDF
FGH40T65SQD-F155	FGH40N60SMDF
HGTG30N60A4D	FGH40N60SMDF
FGH40T70SHD-F155	FGH40N60SMDF
FGH40N60SMDF	FGH40N60SMDF
FGH40N60SMD	FGH40N60SMDF
FGH40T65SHDF-F155	FGH40N60SMDF
NTHL040N65S3HF	NTH027N65S3F-F155
NTH027N65S3F-F155	NTH027N65S3F-F155
NTHL110N65S3F	NTH027N65S3F-F155
NTHL082N65S3F	NTH027N65S3F-F155
NTHL040N65S3F	NTH027N65S3F-F155
NTHL065N65S3F	NTH027N65S3F-F155
FCH165N65S3R0-F155	FCH023N65S3-F155
FCH099N65S3-F155	FCH023N65S3-F155
FCH040N65S3-F155	FCH023N65S3-F155
FCH125N65S3R0-F155	FCH023N65S3-F155
FCH067N65S3-F155	FCH023N65S3-F155
FCH023N65S3-F155	FCH023N65S3-F155

Japanese translation of the notification starts here.
通知の日本語訳はここから始まります。

Note: *The Japanese version is for reference only. In case of any differences between the English and Japanese version, the English version shall control.*

注：日本語版は参照用です。英語版と日本語版の違いがある場合は、英語版が優先されます。



初回製品 / プロセス変更通知

文書番号# : IPCN22971X

発行日: 28 Nov 2019

変更件名:	シャントウ ホワシャンでの TO-247 デュアルソース認定	
初回出荷予定日:	28 May 2020 またはお客様からの承認が得られた場合はそれ以前	
連絡先情報:	現地のオン・セミコンダクター営業所または<Lisa.Wang@onsemi.com>; <Bokyun.Seo@onsemi.com>にお問い合わせください。	
サンプル:	現地のオン・セミコンダクター営業所または <PCN.Samples@onsemi.com> にお問い合わせください。 サンプルは、この変更の初回通知、初回 PCN の日付から 30 日以内に要求してください。 サンプル納入時は、依頼日、数量、特別梱包材/ラベル条件によって異なります。	
通知種別:	これは、お客様宛の初回製品 / プロセス変更通知 (IPCN) です。IPCN は、近日中に実施される変更に関する事前通知であり、変更の詳細および影響を受けるデバイスについての一般情報が記載されます。また、暫定的な信頼性認証計画も記載されます。 最終的な認定データおよび特性データは最終製品 / プロセス変更通知 (FPCN) に含まれます。この IPCN は、変更実施から少なくとも 90 日前に発行される最終製品 / プロセス変更通知 (FPCN) に先だって通知されます。ご不明な点がありましたら、<PCN.Support@onsemi.com> にお問い合わせください。	
変更部品の識別:	一行目の工場コードで"SH"はホワシャンを示します。	
変更カテゴリ:	組立の変更, 検査の変更	
変更サブカテゴリ:	製造拠点の追加	
影響を受ける拠点:		
オン・セミコンダクター拠点:	外部製造工場 / 下請業者拠点:	
	SHANTOU HUASHAN Electronic Devices Co., Ltd., China	
説明および目的: 本通知は、シャントウ ホワシャンへの TO-247 製品のデュアルソース認定を行うオン・セミコンダクターの計画をお客様にお知らせするものです。 FPCN 承認サイクルの期限切れに伴い、対象製品はシャントウ ホワシャン、中国およびオン・セミコンダクター蘇州、中国における製造になります。 シャントウ ホワシャンでは現在 TO-247 パッケージの製造が実施されています。認定試験は、移管された製品の信頼性が引き続きオン・セミコンダクターの規格を満たし、あるいは上回ることを証明するように設計されています。		
	Before Change Description	After Change Description
ダイ接着剤	SLDR WIRE HER PB92.5SN5AG2.5	SLDR WIRE HER PB92.5SN5AG2.5 (ON Semiconductor, Suzhou) SLDR WIRE HER Sn80Ag20 (HUASHAN)
モールド・コンパウンド	SL-7300HFM; SG8200DL; EME 6600CS (ON Suzhou will change SL-7300HFM; SG8200DL to KTMC1050GFA after FPCN22647X approved)	SL-7300HFM; SG8200DL; EME 6600CS (ON Semiconductor, Suzhou) KTMC1050GFA (HUASHAN)
組立および検査拠点	ON Semiconductor Suzhou	ON Semiconductor Suzhou and HUASHAN
今回の変更に伴う製品マーキングの変更はありません。		



認定計画:

デバイス名: FCH023N65S3-F155

RMS : N/A

パッケージ: TO247

テスト	規格	条件	間隔
HTRB	JESD22A108	Tj = 150C for device, bias = 100% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 150C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta =150C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	- Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	85°C, 85% RH, V=80% rated V or 100V max. 1008 Hours	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta=245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta=265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A

デバイス名: NTH027N65S3F-F155

RMS : N/A

パッケージ: TO247

テスト	規格	条件	間隔
HTRB	JESD22A108	Tj = 150C for device, bias = 100% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 150C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta =150C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	- Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	85°C, 85% RH, V=80% rated V or 100V max. 1008 Hours	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta=245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta=265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A



デバイス名: FGH40N60SMDF

RMS : U60853

パッケージ: TO247

テスト	規格	条件	間隔
HTRB	JESD22A108	Tj = 175C for device, bias = 100% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 175C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta = 175C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	Temp = 85C, RH=85%, bias = 80% of rated V or 100V max	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta = +25°C, deltaTj = 100°C max, Ton = Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta = 245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta = 265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A

デバイス名: FGH40T120SMD-F155

RMS : V57838

パッケージ: TO247

テスト	規格	条件	間隔
HTRB	JESD22A108	Tj = 175C for device, bias = 100% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 175C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta = 175C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	Temp = 85C, RH=85%, bias = 80% of rated V or 100V max	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta = +25°C, deltaTj = 100°C max, Ton = Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta = 245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta = 265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A



デバイス名: HGTG11N120CND

RMS : S57839

パッケージ: TO247

テスト	規格	条件	間隔
HTRB	JESD22A108	Tj = 150C for device, bias = 80% of rated V	1008 hrs
HTGB	JESD22A108	Ti = 150C for 1008 hrs, Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta = 150C for device for 1008 hrs	1008 hrs
TC	JESD22 A104;	- Temp = -55°C to +150°C; for 1000 cycles	1000 cyc
H3TRB	JESD22-A101	85°C, 85% RH, V=80% rated V or 100V max. 1008 Hours	1008 hrs
IOL	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, Ton=Toff is 3.5min	8572Cyc
SD	J STD 002B	Ta=245C 10 sec dwell	10s
RSH	JESD22 B106	per AEC - Q101, Ta=265C 10 sec dwell B106SD	10s
Tri-temp	Tri-Temp Characterization	Characterization of all 48A parameters	N/A
TR	Thermal Resistance	Provide thermal comparison data to ensure spec compliance	N/A

認定完了予定日: 6 March 2020

影響を受ける部品の一覧:

注: 部品一覧には標準部品番号 (既製品) のみが記載されています。本 PCN の影響を受けるカスタム部品番号は、PCN メールで提供される顧客個別の付録、または PCN カスタマイズポータルに記載されています。

部品番号	認定試験用ピークル
FCH023N65S3-F155	FCH023N65S3-F155
FCH067N65S3-F155	FCH023N65S3-F155
FCH125N65S3R0-F155	FCH023N65S3-F155
FCH040N65S3-F155	FCH023N65S3-F155
FCH099N65S3-F155	FCH023N65S3-F155
FCH165N65S3R0-F155	FCH023N65S3-F155
NTHL065N65S3F	NTH027N65S3F-F155
NTHL040N65S3F	NTH027N65S3F-F155
NTHL082N65S3F	NTH027N65S3F-F155
NTHL110N65S3F	NTH027N65S3F-F155
NTH027N65S3F-F155	NTH027N65S3F-F155



初回製品 / プロセス変更通知

文書番号# : IPCN22971X

発行日: 28 Nov 2019

NTHL040N65S3HF	NTH027N65S3F-F155
FGH40T65SHDF-F155	FGH40N60SMDF
FGH40N60SMD	FGH40N60SMDF
FGH40N60SMDF	FGH40N60SMDF
FGH40T70SHD-F155	FGH40N60SMDF
HGTG30N60A4D	FGH40N60SMDF
FGH40T65SQD-F155	FGH40N60SMDF
FGH40T65UQDF-F155	FGH40N60SMDF
FGH40T65SHD-F155	FGH40N60SMDF
FGH40N65UFDTU	FGH40N60SMDF
FGH20N60UFDTU	FGH40N60SMDF
ISL9K3060G3	FGH40N60SMDF
FGH40N60UFDTU	FGH40N60SMDF
FGH40T100SMD-F155	FGH40N60SMDF
HGTG12N60A4D	FGH40N60SMDF
HGTG20N60B3D	FGH40N60SMDF
FGH80N60FD2TU	FGH40N60SMDF
FGH30T65UPDT-F155	HGTG11N120CND
FGH25N120FTDS	HGTG11N120CND
FGH50T65UPD	HGTG11N120CND
HGTG11N120CND	HGTG11N120CND
FGH12040WD-F155	FGH40T120SMD-F155
FGH40T65SPD-F155	FGH40T120SMD-F155
FGH40T100SMD	FGH40T120SMD-F155
FGH25T120SMD-F155	FGH40T120SMD-F155
FGH15T120SMD-F155	FGH40T120SMD-F155
FGH40T120SMD-F155	FGH40T120SMD-F155
FGH40T120SMD	FGH40T120SMD-F155
HGTG12N60C3D	FGH40N60SMDF
FGH40T65UPD	FGH40N60SMDF