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西新宿三井ビルディング

報告書番号：PCN#20110130000B
2011 年 7 月 27 日

お客様各位

日本テキサス・インスツルメンツ株式会社
営業・技術本部 カスタムドキュメント
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HPA/PWR QFNパッケージ 一部製品 組立検査サイト追加のご案内

(初版 PCN20110130000A 2011 年 3 月 18 日発行)

拝啓 貴社益々ご清栄の事とお喜び申し上げます。平素は弊社製品のご愛顧を賜り、厚く御礼申し上げます。さて、標題の件につきましてご連絡させていただきます。ご査収の程、宜しく願い申し上げます。

今回のお知らせは、変更実施についての最終版の連絡になります。変更の詳細は、次頁以降をご参照下さい。

本通知は、いかなる製品の製造終了に関する状況を変更するものではございません。既に製造終了の連絡をさせていただいている場合には、本通知によって、既通知の最終受注日及び最終出荷日が延長されることはございません。

変更品の出荷につきましては、お客様との早期変更実施の個別契約を締結している場合を除いては、本通知発行日より **30** 日以降に予定いたしております。この通知期間は、弊社品質標準に基づいております。本変更に対するお客様個別のご要求に関しましては、個別契約にて承ります。弊社と合意済みの個別要求につきましては、別途対応させていただきます。担当営業にご確認下さい。

本通知は、通知日前 24 ヶ月以内に本変更対象製品をご購入いただいたお客様に連絡させていただいております。

尚、変更時期につきましては、在庫状況により異なりますので、担当営業にお問い合わせ下さい。また、ご不明な点、ご質問等がございましたら、担当営業或いはpcn_tij@list.ti.comにお問い合わせ下さい。

以上

変更概要

通知タイプ	☐ Initial notice (Plan)	☒ Final notice		
変更概要	Design/Specification	☐ Design	☐ Electrical	☐ Mechanical
	Wafer Fab	☐ Site	☐ Process	☐ Material
	Wafer Bump	☐ Site	☐ Process	☐ Material
	☒ Assembly	☒ Site	☐ Process	☒ Material
	☒ Test	☒ Site	☐ Process	
	☒ Others	☒ Packing/Shipping/Labeling ☐ -		
変更内容	HPA/PWR QFN パッケージ 一部製品 組立検査サイト追加 現行 : HANA 社(タイ), UTAC 社(タイ), TI-Malaysia(マレーシア) 変更後: HANA 社(タイ), UTAC 社(タイ), TI-Malaysia(マレーシア), TI-Clark(フィリピン)			
対象製品	対象製品リスト参照			
変更時期	認定終了品は9月上旬の出荷より予定しています。			
品質認定試験	☐ 計画	☒ 終了		
製品表示	☐ 変更無し	☒ 変更あり		
備考	-			

変更内容

内容: 弊社 HPA(ハイパフォーマンスアナログ)/PWR(パワーマネジメント) QFN(DSE, DRF, DRV, DQC, DSG, DSK, DSQ, DSS, DRZ, DRW) パッケージ 一部製品の組立検査サイトについて、現行 HANA社(タイ), UTAC社(タイ), TI-Malaysia(マレーシア) サイトにて製造していますが、供給能力確保の為に、これに加えて、TI-Clark(フィリピン)サイトを追加し認定しました。また、組立部材が下記の通り変更されます。TI-ClarkサイトはQFNパッケージ組立工場として認定されています。下記信頼性試験結果(2009年8月13日、2009年9月9日終了)を参照下さい。未認定品につきましては、弊社内変更審査が終了次第、本PCNの更新版として認定試験の結果を含め、変更品の出荷に先立つ30日以前に、変更通知の発行をもって連絡させていただきます。尚、今回の変更で、製品についての互換性(寸法/公差)、外観、動作特性、品質、信頼性への影響はありません。

変更内容	現行	変更後
組立検査サイト	HANA社(タイ) UTAC社(タイ) TI-Malaysia(マレーシア)	HANA社(タイ) UTAC社(タイ) TI-Malaysia(マレーシア) TI-Clark(フィリピン)

		現行	追加認定
組立サイト		認定量産サイト	TI-Clark
チップ接着剤 部材番号		4207768, PZ0037, 4205821	4207768, 4205821
モールド樹脂 部材番号		4208625, 450176	4208625
ボンディングワイヤ (径, 材質)	Group 1	現行部材	変更無し
	Group 2	0.8 mils, Au	0.8 mils, Cu
	Group 3	1.3 mils, Au	1.3 mils, Cu
	Group 4	1.0 mils, Au	0.96 mils, Cu
	Group 5	1.0 mils, Au	0.96 mils, Au

理由: 供給能力確保の為

日本テキサス・インスツルメンツ株式会社

対象製品リスト

対象製品名 - Group 1

□: 認定終了品

BQ24351DSGR	TPS61160DRVT	TPS62240DRVR	TPS62262DRVR	TPS62291DRVT
BQ24351DSGT	TPS61160DRVTG4	TPS62240DRVRG4	TPS62262DRVRG4	TPS62291DRVTG4
BQ25040DQCR	TPS61161ADVR	TPS62240DRVT	TPS62262DRVT	TPS62293DRVR
BQ25040DQCT	TPS61161ADRV	TPS62240DRVTG4	TPS62262DRVTG4	TPS62293DRVRG4
BQ25050DQCR	TPS61161DRVR	TPS62241DRVR	TPS62263DRVR	TPS62293DRVT
BQ25050DQCT	TPS61161DRVRG4	TPS62241DRVT	TPS62263DRVRG4	TPS62293DRVTG4
BQ25060DQCR	TPS61161DRVT	TPS62242DRVR	TPS62263DRVT	TPS62560DRVR
BQ25060DQCT	TPS61161DRVTG4	TPS62242DRVRG4	TPS62263DRVTG4	TPS62560DRVRG4
HPA00484DRVR	TPS61165DRVR	TPS62242DRVT	TPS62270DRVR	TPS62560DRVT
HPA00560DRVR	TPS61165DRVRG4	TPS62242DRVTG4	TPS62270DRVRG4	TPS62560DRVTG4
HPA00574DRVR	TPS61165DRVT	TPS62243DRVR	TPS62270DRVT	TPS62562DRVR
HPA00600DRVR	TPS61165DRVTG4	TPS62243DRVRG4	TPS62270DRVTG4	TPS62562DRVT
HPA00667DRVR	TPS61170DRVR	TPS62243DRVT	TPS62271DRVR	TPS62563DRVR
HPA00695DRVR	TPS61170DRVRG4	TPS62243DRVTG4	TPS62271DRVT	TPS62563DRVT
HPA00735DRVR	TPS61170DRVT	TPS62250DRVR	TPS62272DRVR	TPS62590DRVR
HPA00810-2/2	TPS61170DRVTG4	TPS62250DRVRG4	TPS62272DRVT	TPS62590DRVT
HPA00810ADVR-2/2	TPS61240DRVR	TPS62250DRVT	TPS62273DRVR	TPS63030DSKR
HPA00822DRVR	TPS61240DRVT	TPS62250DRVTG4	TPS62273DRVRG4	TPS63030DSKR4
TPS60150DRVR	TPS61250DSGR	TPS62260DRVR	TPS62273DRVT	TPS63030DSKT
TPS60150DRVT	TPS61250DSGT	TPS62260DRVRG4	TPS62273DRVTG4	TPS63030DSKTG4
TPS60151DRVR	TPS61251DSGR	TPS62260DRVT	TPS62290DRVR	TPS63031DSKR
TPS60151DRVT	TPS61251DSGT	TPS62260DRVTG4	TPS62290DRVRG4	TPS63031DSKR4
TPS61160ADVR	TPS61252DSGR	TPS62261DRVR	TPS62290DRVT	TPS63031DSKT
TPS61160ADRV	TPS61252DSGT	TPS62261DRVRG4	TPS62290DRVTG4	TPS63031DSKTG4
TPS61160DRVR	TPS62122DRVR	TPS62261DRVT	TPS62291DRVR	TPS75105DSKR
TPS61160DRVRG4	TPS62122DRVT	TPS62261DRVTG4	TPS62291DRVRG4	TPS75105DSKT

対象製品名 - Group 2

薄字・右詰: 未認定品

TLV70007DSER	TLV70018DSET	TLV70030DSER	TLV70107DSET	TLV70148DSER
TLV70007DSET	TLV70025DSER	TLV70030DSET	TLV70118DSER	TLV70148DSET
TLV70012DSER	TLV70025DSET	TLV70033DSER	TLV70118DSET	TLV7101828DSER
TLV70012DSET	TLV70028DSER	TLV70033DSET	TLV70128DSER	TLV7101828DSET
TLV70015DSER	TLV70028DSET	TLV70048DSER	TLV70128DSET	
TLV70015DSET	TLV70029DSER	TLV70048DSET	TLV70133DSER	
TLV70018DSER	TLV70029DSET	TLV70107DSER	TLV70133DSET	

対象製品名 - Group 3

□: 認定終了品

BQ24300DSGR	BQ24314ADSGRG4	BQ24352DSGR	HPA00615DRVT	TPS2553DRVR-1
BQ24300DSGRG4	BQ24314ADSGT	BQ24352DSGT	HPA00785DRVR	TPS2553DRVT
BQ24300DSGT	BQ24314ADSGTG4	BQ24355DSGR	HPA00800DSGR	TPS2553DRVT-1
BQ24300DSGTG4	BQ24314BDSGR	BQ24355DSGT	HPA00864DRVR	TPS62060DSGR
BQ24304DSGR	BQ24314BDSGT	BQ24380DSGR	TLV62065DSGR	TPS62060DSGT
BQ24304DSGRG4	BQ24314DSGR	BQ24380DSGRG4	TLV62065DSGT	TPS62061DSGR
BQ24304DSGT	BQ24314DSGRG4	BQ24380DSGT	TPS2550DRVR	TPS62061DSGT
BQ24304DSGTG4	BQ24314DSGT	BQ24380DSGTG4	TPS2550DRVRG4	TPS62063DSGR
BQ24305DSGR	BQ24314DSGTG4	BQ24381DSGR	TPS2550DRVT	TPS62063DSGT
BQ24305DSGRG4	BQ24315DSGR	BQ24381DSGRG4	TPS2550DRVTG4	TPS62065DSGR
BQ24305DSGT	BQ24315DSGRG4	BQ24381DSGT	TPS2551DRVR	TPS62065DSGT
BQ24305DSGTG4	BQ24315DSGT	BQ24381DSGTG4	TPS2551DRVRG4	TPS62066DSGR
BQ24308DSGR	BQ24315DSGTG4	BQ24382DSGR	TPS2551DRVT	TPS62066DSGT
BQ24308DSGT	BQ24316DSGR	BQ24382DSGT	TPS2551DRVTG4	TPS62067DSGR
BQ24312DSGR	BQ24316DSGRG4	BQ25045DQCR	TPS2552DRVR	TPS62067DSGT
BQ24312DSGT	BQ24316DSGT	BQ25045DQCT	TPS2552DRVR-1	TPS62750DSKR
BQ24313DSGR	BQ24316DSGTG4	BQ25046DQCR	TPS2552DRVT	TPS62750DSKT
BQ24313DSGT	BQ24350DSGR	BQ25046DQCT	TPS2552DRVT-1	TPS62751DSKR
BQ24314ADSGR	BQ24350DSGT	HPA00615DRVR	TPS2553DRVR	TPS62751DSKT

対象製品名 - Group 4 □: 認定終了品			
BQ24040DSQR	BQ24041DSQT	BQ24052DSQR	BQ24055DSST
BQ24040DSQT	BQ24050DSQR	BQ24052DSQT	PBQ24040DSQR
BQ24041DSQR	BQ24050DSQT	BQ24055DSSR	PBQ24040DSQT

対象製品名 - Group 5 □: 認定終了品 薄字・右詰: 未認定品				
HPA01044DRVR	TPS71728DSET	TPS71828-30DRVRG4	TPS719285-285DRVR	TPS72015DRVT
THS9000DRWR	TPS71728DSETG4	TPS71828-30DRVT	TPS719285-285DRVT	TPS72018DRVR
THS9000DRWRG4	TPS71733DRVR	TPS71828-30DRVTG4	TPS71933-28DRVR	TPS72018DRVT
THS9000DRWT	TPS71733DRVRG4	TPS71913-28DRVR	TPS71933-28DRVRG4	TPS72715DSE
THS9000DRWTG4	TPS71733DRVT	TPS71913-28DRVRG4	TPS71933-28DRVT	TPS72715DSET
TPS71709DSE	TPS71733DRVTG4	TPS71913-28DRVT	TPS71933-28DRVTG4	TPS72718DSE
TPS71709DSE	TPS71733DSE	TPS71913-28DRVTG4	TPS71933-33DRVR	TPS72718DSE
TPS71709DSE	TPS71733DSE	TPS71918-12DRVR	TPS71933-33DRVRG4	TPS72725DSE
TPS71709DSE	TPS71733DSE	TPS71918-12DRVRG4	TPS71933-33DRVT	TPS72725DSE
TPS71710DRVR	TPS71733DSE	TPS71918-12DRVT	TPS71933-33DRVTG4	TPS727285DSE
TPS71710DRVRG4	TPS71745DSE	TPS71918-12DRVTG4	TPS71936-315DRVR	TPS727285DSE
TPS71710DRVT	TPS71745DSE	TPS71918-28DRVR	TPS71936-315DRVT	TPS72728DSE
TPS71710DRVTG4	TPS71750DSE	TPS71918-28DRVT	TPS72009DRVR	TPS72728DSE
TPS717185DSE	TPS71750DSE	TPS71921-22DRVR	TPS72009DRVT	TPS72730DSE
TPS717185DSE	TPS71812-33DRVR	TPS71921-22DRVT	TPS720105DRVR	TPS72730DSE
TPS71718DSE	TPS71812-33DRVRG4	TPS71926-15DRVR	TPS720105DRVT	TPS72733DSE
TPS71718DSE	TPS71812-33DRVT	TPS71926-15DRVRG4	TPS72010DRVR	TPS72733DSE
TPS71718DSE	TPS71812-33DRVTG4	TPS71926-15DRVT	TPS72010DRVT	TPS728120150DRVR
TPS71718DSE	TPS71818-33DRVR	TPS71926-15DRVTG4	TPS72011DRVR	TPS728120150DRVT
TPS71727DSE	TPS71818-33DRVT	TPS71928-28DRVR	TPS72011DRVT	TPS728185315DRVR
TPS71727DSE	TPS71825-12DRVR	TPS71928-28DRVRG4	TPS72012DRVR	TPS728185315DRVRG4
TPS71728DSE	TPS71825-12DRVT	TPS71928-28DRVT	TPS72012DRVT	TPS728185315DRVT
TPS71728DSE	TPS71828-30DRVR	TPS71928-28DRVTG4	TPS72015DRVR	TPS728185315DRVTG4

製品表示

今回の変更に伴い、出荷ラベルに記載の原産地(ラベル箇所:22L)が下記のようになります。また、製品捺印上に、TI-Clark サイトを明示する“**I**”が、組立サイトコードとして記載されます。

	組立サイト	組立サイトコード(22L)
追加認定	TI-Clark	QAB



図1 出荷ラベルの例

日本テキサス・インスツルメンツ株式会社

信頼性試験

信頼性試験結果

信頼性試験期間	開始	—	終了	2011 年 7 月 15 日
信頼性試験 - 試料構成詳細				
Qual Device:	BQ27500DRZ	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	VSON/DRZ/12	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	0.96 Mil Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration		Sample Size/ Fails	
Manufacturability	per mfg. Site specification		Approved	
Moisture Sensitivity	JEDEC L-2/260C		12/0	

信頼性試験結果

信頼性試験期間	開始	—	終了	2011 年 7 月 15 日
信頼性試験 - 試料構成詳細				
Qual Device:	BQ25046DQC	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	WSON/DQC/10	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	1.3 Mil Dia., Cu	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration		Sample Size/ Fails	
Assembly MQ	per mfg. Site specification		Approved	
Moisture Sensitivity	JEDEC L-2/260C		15/0	

信頼性試験結果

信頼性試験期間	開始	—	終了	2011 年 7 月 15 日
信頼性試験 - 試料構成詳細				
Qual Device:	TPS61161DRV	Die Protective Coating:	10kA Nitride	
Assembly Site:	TI Clark	Package/Code/Pins:	WSON/DRV/6	
Mount Compound:	4205821	Mold Compound:	4208625	
Bond Wire:	1.31 Mil Dia, Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C, 420hrs	125/0	130/0	123/0
**Autoclave	121C, 96 hrs	101/0	100/0	77/0
**T/C	-65C/150C, 500 Cyc	100/0	100/0	77/0
Manufacturability	per mfg. Site specification	Approved	Approved	Approved
Moisture Sensitivity	JEDEC L-2/260C	12/0	12/0	12/0
Surface Mount Solderability	Pb Free	22/0	22/0	22/0
Surface Mount Solderability	non Pb Free	22/0	22/0	22/0
Salt Atmosphere	-	22/0	22/0	27/0
Notes: ** Preconditioning Sequence: JEDEC L-2/260C				

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信頼性試験結果				
信頼性試験期間	開始	—	終了	2011 年 7 月 15 日
信頼性試験 — 試料構成詳細				
Qual Device:	TPS62750DSK	Die Protective Coating:	10 KA CN	
Assembly Site:	TI Clark	Package/Code/Pins:	WSON/DSK/10	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	1.3 Mil Dia., Cu	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-1/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C, 420hrs	129/0	128/0	129/0
**Autoclave	121C, 96 hrs	77/0	77/0	77/0
**T/C	-65C/150C, 500 Cyc	77/0	77/0	77/0
Manufacturability	per mfg. Site specification	Approved	Approved	Approved
Moisture Sensitivity	JEDEC L-1/260C	12/0	12/0	12/0
Surface Mount Solderability	Pb Free	22/0	22/0	22/0
Surface Mount Solderability	non Pb Free	22/0	22/0	22/0
Salt Atmosphere	-	22/0	22/0	22/0
Notes: ** Preconditioning Sequence: JEDEC L-1/260C				

信頼性試験計画				
信頼性試験期間	開始	2010 年 11 月	終了	2011 年 4 月
信頼性試験 - 試料構成詳細				
Qual Device:	TLV70028DSE	Die Protective Coating:	10KA CN	
Assembly Site:	TI Clark	Package Code/Pins:	DSE/6	
Mount Compound:	4205821	Mold Compound:	4208625	
Bond Wire:	0.8 Mil Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-1/260C	-	-	
信頼性試験計画				
Reliability Test	Condition / Duration	Sample Size		
		Lot1	Lot2	Lot3
**High Temp. Storage Bake	170C, 420hrs	77	77	77
**Autoclave	121C, 96 hrs	77	77	77
**T/C	-65C/150C, 500 Cyc	77	77	77
Manufacturability	per mfg. Site specification	per spec	per spec	per spec
Moisture Sensitivity	JEDEC L-1/260C	12	12	12
Notes: ** Preconditioning Sequence, JEDEC L-1/260C				

信頼性試験計画				
信頼性試験期間	開始	2010 年 11 月	終了	2011 年 4 月
信頼性試験 - 試料構成詳細				
Qual Device:TLV70028DSE -CU WIRE				
Die Protective Coating:	10KA CN	-	-	
Assembly Site:	TI Clark	Package Code/Pins:	DSE/6	
Mount Compound:	4205821	Mold Compound:	4208625	
Bond Wire:	0.8 Mil Dia., Cu	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-1/260C	-	-	
信頼性試験計画				
Reliability Test	Condition / Duration	Sample Size		
		Lot1	Lot2	Lot3
**High Temp. Storage Bake	170C, 420hrs	77	77	77
**Autoclave	121C, 96 hrs	77	77	77
**T/C	-65C/150C, 500 Cyc	77	77	77
Manufacturability	per mfg. Site specification	per spec	per spec	per spec
Moisture Sensitivity	JEDEC L-1/260C	12	12	12
Notes: ** Preconditioning Sequence, JEDEC L-1/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009年9月9日
信頼性試験 - 試料構成詳細				
Qual Device:MSC1202Y3RHHR				
Die Protective Coating:	SiO2/Si3N4	Die Protective Coating:	SiO2/Si3N4	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/RHH/36	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	1.0 Mil Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-3/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-
**Autoclave	121C,96Hrs	77/0	-	-
**T/C	-65C/150C,500Cyc	82/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-3/260C	12/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-3/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 — 試料構成詳細				
Qual Device:	ONET4291VARGPR	Die Protective Coating:	6KA DHP/1K TEOS/ 8KAOXY	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/RGP/20	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	0.96 Mil. Dia, Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-3/260C		-	
信頼性試験結果				
Reliability Test	Condition / Duration		Sample Size/ Fails	Notes
**High Temp Operating Life	140C, 480 hours		116/0	-
**Biased HAST	130C/85%RH, 96 Hrs		77/0	-
**T/C	-65C/150C, 500 Cyc		82/0	-
Visual / Mechanical	Performed during Assembly MQ		Approved	-
Physical Dimensions	per mechanical drawing		5/0	-
Backgrind Characterization	-		Approved	-
Bond Pull	76 ball bonds, min. 3 units		76/0	-
Bond Shear	76 ball bonds, min. 3 units		76/0	-
Die Shear	-		10/0	-
Manufacturability, Assembly	per mfg. Site specification		Approved	-
X-ray	top side only		5/0	-
Moisture Sensitivity	JEDEC L-2/260C		12/4	(1)
Moisture Sensitivity	JEDEC L-3/260C		12/0	-
Notes:				
** Must be preconditioned per the appropriate sequence, JEDEC L-3/260C				
(1) Device saw delamination between the die pad and mold compound in the die bond area. Actions are being addressed to correct the problem.				

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信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 - 試料構成詳細				
Qual Device : SH6966ACC0RGCRG4 (Au-Wire)				
Die Protective Coating:	10KACN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/RGC/64	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	1.15 Mil Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-3/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp Operating Life	125C,1000Hrs	140/0	-	-
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-
**Biased HAST	130C/85%RH,96 Hrs	77/0	-	-
**Autoclave	121C,96Hrs	77/0	-	-
**T/C	-65C/150C,500Cyc	81/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Solderability	Steam age, 8 hours	22/0	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
**Thermal Shock	-65C/150C,500Cyc	77/0	-	-
Salt Atmosphere	24 Hrs	22/0	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-3/260C	22/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-3/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 8 月 13 日
信頼性試験 - 試料構成詳細				
Qual Device:SH6966ACC0RGCRG4 (Cu-Wire)				
Die Protective Coating:	10KACN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/RGC/64	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	1.15Mil Dia., Cu	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-3/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp Operating Life	125C,1000Hrs	140/0	140/0	141/0
**High Temp. Storage Bake	170C,420Hrs	77/0	77/0	77/0
**Biased HAST	130C/85%RH,96 Hrs	77/0	77/0	77/0
**Autoclave	121C,96Hrs	77/0	77/0	77/0
**T/C	-65C/150C,500Cyc	87/0	82/0	87/0
Visual / Mechanical	Performed during Assembly MQ	Approved		
Solderability	Steam age, 8hours	22/0	22/0	22/0
Physical Dimensions	per mechanical drawing	5/0	5/0	5/0
Bond Pull	76 ball bonds, min. 3 units	76/0	76/0	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0	76/0	76/0
Die Shear	-	10/0	10/0	10/0
Manufacturability, Assembly	per mfg. Site specification	Approved		
**Thermal Shock	-65C/150C,500Cyc	77/0	77/0	77/0
Salt Atmosphere	24 Hrs	22/0	22/0	22/0
X-ray	top side only	5/0	5/0	5/0
Moisture Sensitivity	JEDEC Level-3/260C	22/0	22/0	22/0
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-3/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 - 試料構成詳細				
Qual Device:SN65LVCP40RGZ				
Die Protective Coating:	10KAN		-	-
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/ RGZ/48	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	0.96 Mil Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-3/260C		-	-
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp Operating Life	155C,240Hrs	116/0	-	-
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-
**Biased HAST	130C/85%RH,96 Hrs	77/0	-	-
**Autoclave	121C,96Hrs	77/0	-	-
**T/C	-65C/150C,500Cyc	82/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-3/260C	12/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-3/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 - 試料構成詳細				
Qual Device:TPA5050RSA				
Die Protective Coating:	OxyNitride		-	-
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/RSA/16	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	0.96 Mil Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C		-	-
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp Operating Life	140C,480hrs	116/0	-	-
**Biased HAST	130C/85%RH,96Hrs	80/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-2/260C	12/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 — 試料構成詳細				
Qual Device:TPS2231RGPR (Au-Wire)				
Die Protective Coating:	11.5KAN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/RGP/20	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	2.0 Mil Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp Operating Life	155C,240Hrs	77/0	-	-
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-
**Autoclave	121C,96Hrs	77/0	-	-
**T/C	-65C/150C,500Cyc	87/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Solderability	Steam age, 8 hours	22/0	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
**Thermal Shock	-65C/150C,500Cyc	77/0	-	-
Salt Atmosphere	24 Hrs	22/0	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-2/260C	12/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009年8月13日
信頼性試験 — 試料構成詳細				
Qual Device:TPS2231RGPR (Cu-Wire)				
Die Protective Coating:	11.5KAN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/ RGP/20	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	2.0 Mil Dia., Cu	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp Operating Life	155C,240Hrs	77/0	77/0	77/0
**High Temp. Storage Bake	170C,420Hrs	77/0	77/0	77/0
**Autoclave	121C,96Hrs	77/0	77/0	77/0
**T/C	-65C/150C,500Cyc	87/0	87/0	87/0
Visual / Mechanical	Performed during Assembly MQ	Approved		
Solderability	Steam age, 8 hours	22/0	22/0	22/0
Physical Dimensions	per mechanical drawing	5/0	5/0	5/0
Bond Pull	76 ball bonds, min. 3 units	76/0	76/0	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0	76/0	76/0
Die Shear	-	10/0	10/0	10/0
Manufacturability, Assembly	per mfg. Site specification	Approved		
**Thermal Shock	-65C/150C,500Cyc	77/0	77/0	77/0
Salt Atmosphere	24 Hrs	22/0	22/0	22/0
X-ray	top side only	5/0	5/0	5/0
Moisture Sensitivity	JEDEC Level-2/260C	12/0	12/0	12/0
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 - 試料構成詳細				
Qual Device:TPS61020DRC (Au-Wire)				
Die Protective Coating:	10.5KAN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/DRC/10	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	0.95 MIL Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-
**Autoclave	121C,96Hrs	77/0	-	-
**T/C	-65C/150C,500Cyc	87/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
**Thermal Shock	-65C/150C,500Cyc	77/0	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-2/260C	12/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009年9月9日
信頼性試験 - 試料構成詳細				
Qual Device:TPS61020DRC (Cu-Wire)				
Die Protective Coating:	10.5KAN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/DRC/10	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	0.95 MIL Dia., Cu	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-		
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C,420Hrs	77/0	77/0	77/0
**Autoclave	121C,96Hrs	77/0	77/0	77/0
**T/C	-65C/150C,500Cyc	87/0	87/0	87/0
Visual / Mechanical	Performed during Assembly MQ	Approved		
Physical Dimensions	per mechanical drawing	5/0	5/0	5/0
Bond Pull	76 ball bonds, min. 3 units	76/0	76/0	76/0
Bond Shear	76 ball bonds, min. 3 units	76/0	76/0	76/0
Die Shear	-	10/0	10/0	10/0
Manufacturability, Assembly	per mfg. Site specification	Approved		
**Thermal Shock	-65C/150C,500Cyc	77/0	77/0	77/0
X-ray	top side only	5/0	5/0	5/0
Moisture Sensitivity	JEDEC Level-2/260C	12/0	12/0	12/0
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 - 試料構成詳細				
Qual Device:TPS62402DRCR (Au-Wire)				
Die Protective Coating:	10.5KAN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/DRC/10	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	1.3 MIL Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-
**Autoclave	121C,96Hrs	77/0	-	-
**T/C	-65C/150C,500 Cyc	87/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
**Thermal Shock	-65C/150C,500Cyc	77/0	-	-
Salt Atmosphere	24 Hrs	22/0	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-2/260C	12/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 - 試料構成詳細				
Qual Device:TPS62402DRCR (Cu-Wire)				
Die Protective Coating:	10.5KAN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/DRC/10	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	1.3 MIL Dia., Cu	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-
**Autoclave	121C,96Hrs	77/0	-	-
**T/C	-65C/150C,500 Cyc	87/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
**Thermal Shock	-65C/150C,500Cyc	77/0	-	-
Salt Atmosphere	24 Hrs	22/0	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-2/260C	12/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C				

信頼性試験結果				
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日
信頼性試験 — 試料構成詳細				
Qual Device:TPS650240RHBR (Au-Wire)				
Die Protective Coating:	10.5KAN	-	-	
Assembly Site:	TI Clark	Package/Code/Pins:	QFN/RHB/32	
Mount Compound:	4207768	Mold Compound:	4208625	
Bond Wire:	1.3 MIL Dia., Au	Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C	-	-	
信頼性試験結果				
Reliability Test	Condition / Duration	Sample Size/ Fails		
		Lot#1	Lot#2	Lot#3
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-
**Autoclave	121C,96Hrs	77/0	-	-
**T/C	-65C/150C,500Cyc	87/0	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-
**Thermal Shock	-65C/150C,500Cyc	77/0	-	-
X-ray	top side only	5/0	-	-
Moisture Sensitivity	JEDEC Level-2/260C	12/0	-	-
Note: ** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C				

信頼性試験結果					
信頼性試験期間	開始	—	終了	2009 年 9 月 9 日	
信頼性試験 — 試料構成詳細					
Qual Device:TPS650240RHBR (Cu-Wire)					
Die Protective Coating:	10.5KAN		-	-	
Assembly Site:	TI Clark		Package/Code/Pins:	QFN/RHB/32	
Mount Compound:	4207768		Mold Compound:	4208625	
Bond Wire:	1.3 MIL Dia., Cu		Leadframe (Finish, Base):	NiPdAu, Cu	
MSL:	JEDEC L-2/260C		-	-	
信頼性試験結果					
Reliability Test	Condition / Duration	Sample Size/ Fails			Notes
		Lot#1	Lot#2	Lot#3	
**High Temp. Storage Bake	170C,420Hrs	77/0	-	-	-
**Autoclave	121C,96Hrs	77/0	-	-	-
**T/C	-65C/150C,500Cyc	87/0	-	-	-
Visual / Mechanical	Performed during Assembly MQ	Approved	-	-	-
Physical Dimensions	per mechanical drawing	5/0	-	-	-
Bond Pull	76 ball bonds, min. 3 units	76/0	-	-	-
Bond Shear	76 ball bonds, min. 3 units	76/0	-	-	-
Die Shear	-	10/0	-	-	-
Manufacturability, Assembly	per mfg. Site specification	Approved	-	-	-
**Thermal Shock	-65C/150C,500Cyc	77/0	-	-	-
X-ray	top side only	5/0	-	-	-
Moisture Sensitivity	JEDEC Level-2/260C	12/1	-	-	(1)
Note:					
** Must be preconditioned per the appropriate sequence, JEDEC L-2/260C					
(1) Devices saw delamination between the die and die pad. Actions have been implemented to Correct this issue.					