

PCN Number:	20181217002		PCN Date:	March 7,, 2019													
Title:	TIEMA to CLARK WQFN Capacity																
Customer Contact:	PCN Manager		Dept:	Quality Services													
Proposed 1st Ship Date:	Sept. 7, 2019		Estimated Sample Availability:	Date provided at sample request													
Change Type:																	
☒ Assembly Site	☐ Design	☐ Wafer Bump Site															
☐ Assembly Process	☐ Data Sheet	☐ Wafer Bump Material															
☒ Assembly Materials	☐ Part number change	☐ Wafer Bump Process															
☐ Mechanical Specification	☒ Test Site	☐ Wafer Fab Site															
☒ Packing/Shipping/Labeling	☐ Test Process	☐ Wafer Fab Materials															
	☐ Wafer Fab Process																
PCN Details																	
Description of Change:																	
Texas Instruments Incorporated is pleased to announce the qualification of TI Clark as a new Assemble/Test site for BC13 technology family of devices in WQFN package. The Leadframe finish will change as described below. <table border="1" style="width: 100%;"> <thead> <tr> <th>Description</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>Assembly site</td> <td>TI Melaka</td> <td>TI Clark</td> </tr> <tr> <td>Leadframe finish</td> <td>Matte Sn (G3)</td> <td>NiPdAu (G4)</td> </tr> <tr> <td>Leadframe</td> <td>Standard L/F</td> <td>Roughened L/F</td> </tr> </tbody> </table> As a result of the change in leadframe finish, please note the difference in device symbolization. From:  To: 						Description	From	To	Assembly site	TI Melaka	TI Clark	Leadframe finish	Matte Sn (G3)	NiPdAu (G4)	Leadframe	Standard L/F	Roughened L/F
Description	From	To															
Assembly site	TI Melaka	TI Clark															
Leadframe finish	Matte Sn (G3)	NiPdAu (G4)															
Leadframe	Standard L/F	Roughened L/F															
Reason for Change:																	
Maintain continuity of supply for increase in demand.																	
Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):																	
None.																	
Changes to product identification resulting from this PCN:																	
The product box label site origin codes will change as described below:																	
Current																	
Assembly Site	Assy site code (22L)	Assy country code (23L)															
TIEM A/T	CU8	MYS															

New

Chip Site	Assy site code (22L)	Assy country code (23L)
CLARK A/T	QAB	PHL

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
MADE IN: Malaysia
2DC: 2Q:
MSL 2 / 260C / 1 YEAR SEAL DT 03/29/04
MSL 1 / 235C / UNLIM
OPT: ITEM: 39
LBL: 5A (L)T0:1750

(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY(1T) 7523483SI2
(P) REV: (V) 0033317
(20L) CSO: SHE (21L) 000-USA
(22L) ASO: MLA (23L) ACO: MYS

ECAT: G4 = NiPdAu
ECAT: G3 = Matte Sn

Product Affected:

DS90UB301QSQ/NOPB	DS90UH301QSQE/NOPB
DS90UB301QSQE/NOPB	DS90UH301QSQX/NOPB
DS90UB301QSQX/NOPB	DS90UH302QSQ/NOPB
DS90UB302QSQ/NOPB	DS90UH302QSQE/NOPB
DS90UB302QSQE/NOPB	DS90UH302QSQX/NOPB
DS90UB302QSQX/NOPB	DS90UH925QSQ/E7002397
DS90UB925QSQ/E7002826	DS90UH925QSQ/NOPB
DS90UB925QSQ/NOPB	DS90UH925QSQE/E7002397
DS90UB925QSQE/E7002826	DS90UH925QSQE/NOPB
DS90UB925QSQE/NOPB	DS90UH925QSQX/E7002397
DS90UB925QSQX/E7002826	DS90UH925QSQX/NOPB
DS90UB925QSQX/NOPB	DS90UH926QSQ/E7002384
DS90UB926QSQ/E7002827	DS90UH926QSQ/NOPB
DS90UB926QSQ/NOPB	DS90UH926QSQ/S7002920
DS90UB926QSQE/E7002827	DS90UH926QSQE/E7002384
DS90UB926QSQE/NOPB	DS90UH926QSQE/J7003048
DS90UB926QSQX/E7002827	DS90UH926QSQE/NOPB
DS90UB926QSQX/E7002956	DS90UH926QSQX/E7002384
DS90UB926QSQX/NOPB	DS90UH926QSQX/J7003049
DS90UH301QSQ/NOPB	DS90UH926QSQX/NOPB

Automotive New Product Qualification Summary (As per AEC-Q100 and JEDEC Guidelines)

Approved 14-Dec-2018

Product Attributes

Attributes	Qual Device: DS90UH925QJEZ1	QBS Package Reference: DS90UH926QET65
Automotive Grade Level	Grade 2	Grade 2
Operating Temp Range	-40 to +105 C	-40 to +105 C
Product Function	Interface	Interface
Wafer Fab Supplier	MFAB	FFAB and MFAB
Die Revision	A	A
Assembly Site	CLARK AT	CLARK AT
Package Type	WQFN	WQFN
Package Designator	RHS	NKB
Ball/Lead Count	48	60

- QBS: Qual By Similarity

- Qual Device DS90UH925QJEZ1 is qualified at LEVEL3-260CG

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: DS90UH925QJEZ1	QBS Package Reference: DS90UH926QET65
Test Group A – Accelerated Environment Stress Tests								
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Automotive Preconditioning	Level 3-260C	No Fails	No Fails
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 110C/85%RH	264 Hours	-	3/231/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	1/77/0	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0
TC-BP	A4	MIL-STD883 Method 2011	1	30	Post Temp Cycle Bond pull	Wires	1/30/0	3/90/0
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	N/A
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 150C	1000 Hours	-	3/135/0

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: <u>DS90UH925QJEZ1</u>	QBS Package Reference: <u>DS90UH926QET65</u>
Test Group B – Accelerated Lifetime Simulation Tests								
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	-	3/231/0
EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	N/A
Test Group C – Package Assembly Integrity Tests								
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	Wires	1/30/0	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	Wires	1/30/0	3/90/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	Pb Free Solder	1/15/0	3/45/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	Pb Solder	1/15/0	3/45/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	-	1/10/0	3/30/0
LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	-	-	-
Test Group D – Die Fabrication Reliability Tests								
EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements	-
TDDDB	D2	JESD35	-	-	Time Dependant Dielectric Breakdown	-	Completed Per Process Technology Requirements	-
HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	-
NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	-
SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	-
Test Group E – Electrical Verification Tests								
ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and	Pass	Pass

	Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: <u>DS90UH925QJEZ1</u>	QBS Package Reference: <u>DS90UH926QET65</u>
							cold test		

A1 (PC): Preconditioning:

Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:

Grade 0 (or E): -40°C to +150°C

Grade 1 (or Q): -40°C to +125°C

Grade 2 (or T): -40°C to +105°C

Grade 3 (or I) : -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):

Room/Hot/Cold : HTOL, ED

Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU

Room : AC/uHAST

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green



TI Information
Selective Disclosure

Automotive Change Product Qualification Summary (As per AEC-Q100 and JEDEC Guidelines)

Approved 13-Dec-2018

Product Attributes

Attributes	Qual Device: DS90UH926QET65
Automotive Grade Level	Grade 2
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Product Function	Interface
Wafer Fab Supplier	FFAB and MFAB
Die Revision	A
Assembly Site	CLARK AT
Package Type	WQFN
Package Designator	NKB
Ball/Lead Count	60

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	Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: <u>DS90UH926OET65</u>
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	SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	Pb Solder	3/45/0
	PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	-	3/30/0
	LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	-	-
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Room : AC/uHAST

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
WW PCN Team	PCN_ww_admin_team@list.ti.com