

PCN#20200629000.1 Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revision, and additional Assembly site/BOM options for select devices

Change Notification / Sample Request

Date: June 30, 2020 To: Newark/Farnell PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

Texas Instruments requires acknowledgement of receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If samples or additional data are required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team (<u>PCN ww admin team@list.ti.com</u>). For sample requests or sample related questions, contact your local Field Sales Representative.

PCN Team SC Business Services

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
SN74HC08DR	null
CD74HC125M96	null
CD74HC14M96	null
CD74HC14PWR	null
SN74HC00DR	null
SN74HC00PWR	null
SN74HC02DR	null
SN74HC02PWR	null
SN74HC04DR	null
SN74HC04NSR	null
SN74HC04PWR	null
SN74HC08NSR	null
SN74HC11DR	null
SN74HC125DR	null
SN74HC132DR	null
SN74HC14DR	null
SN74HC14PWR	null
SN74HC20DR	null
SN74HC21DR	null
SN74HC21PWR	null
SN74HC32DR	null
SN74HC32PWR	null
SN74HC86DR	null
SN74HC86PWR	null
CD74HC4075PWR	null
SN74HC14NSR	null
SN74HC74DR	null

Technical details of this Product Change follow on the next page(s).

PCN Number: 20200629000.1				PC	N Da	ate:	June 30, 2020		
Title: Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revisio and additional Assembly site/BOM options for select devices					nology, Die Revision,				
Custon	ner Contact:		PCN	I Manager		Dept:			Quality Services
Proposed 1 st Ship Date:			Sept 28, 2020 Estimat Availab		ated Sample bility:		nple	Date provided at sample request.	
Change	е Туре:								
	sembly Site		\boxtimes	Assembly Process			\boxtimes	Assembly Materials	
🛛 De	sign			Electrical Specifica	ation			Mechanical Specification	
Tes	st Site			Packing/Shipping/	Labeling			Test I	Process
Wa	afer Bump Site			Wafer Bump Mate	rial			Wafer Bump Process	
🛛 Wa	afer Fab Site		\boxtimes	Wafer Fab Materia	ls		\boxtimes	Wafe	r Fab Process
			Part number change						
				PCN Deta	ils				

Description of Change:

Texas Instruments is pleased to announce the qualification of a new fab & process technology (RFAB, LBC9) and assembly (NFME or HFTAT) site/BOM (MLA) options for selected devices as listed below in the product affected section. Construction differences are noted below:

C	urrent Fab Site	9	Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
SFAB	HCMOS	150 mm	RFAB	LBC9	300 mm

The die was also changed as a result of the process change.

Construction differences are noted below:

Group 1 RFAB/Process migration & AT/BOM Updates for D Devices:

	ASESH	FMX	MLA	MLA New	HFTF
			Current		
Mount Compound	SID#EY1000063	4147858	4147858	same	SID# A-03
Mold Compound	SID#EN2000511	4211880	4211880	same	SID#R-30
Lead finish	Matte Sn, non RLF	NiPdAu, non RLF	NiPdAu, non RLF	NiPdAu, RLF	Matte Sn, non RLF
Bond wire diameter (Cu)	0.8 mils	0.96 or 0.8mil	0.96 mils	0.8 mils	0.8 mils

Note: D Devices are currently built at one or more of the following AT sites: ASESH, FMX, MLA.

Group 2 RFAB/Process migration & AT/BOM Compare for PW devices:

	MLA Current	ASESH	MLA New	NFME			
Mount Compound	4147858	SID#EY1000063	same	SID# A-03			
Mold Compound	4211471	SID#EN2000508	same	SID# R-31			
Lead finish	NiPdAu, non RLF	Matte Sn, non RLF	NiPdAu, RLF	Matte Sn, non RLF			
Bond wire diameter (Cu)	0.96 mils	1.0 mils	0.8 mils	0.8 mils			

Note: PW Devices are currently built at either ASESH, MLA or both.

				MLA Current	evices BOM Update MLA New	at hEA)
	F	Bond wir	e diameter			
	-	(Cu)	e didificter	0.96 mils	0.8 mils	
	l	Lead fini	sh	NiPdAu, non RLF	NiPdAu, RLF	
he d NiPdA	evices in group Au/Ag.				a single <u>standard p</u> - can ship with both I	
xam			er for 7500 unit v per Reel).	s of CD74HC08PV	VR with 2500 units SI	PQ (Standard
	– TI ca	I. II. III.	3 Reels of NiPd3 Reels of Matt2 Reels of Matt	e Sn finish e Sn and 1 reel o	f NiPdAu finish.	
		IV.	∠ Keels of NIPd	Au and 1 reel of N	riatte Sn finish.	
Reas	on for Chang	e:				
	Closure & Cor		of Supply			
			,	on, Quality or R	eliability (positive)	/ negative):
None						•
		t on Ma	tarial Declarat			
Anticipated impact on Material Declaration						
			-		uct Content reports :	are driven from
	No Impact to the Material		Material De production	clarations or Proc data and will be a	luct Content reports a available following the	e production
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Chan	No Impact to the Material Declaration	o 🗵	Material Deproduction release. Up obtained fre	clarations or Proc data and will be a con production re om the <u>TI ECO we</u> ting from this Po	available following the lease the revised rep	e production
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Chan	No Impact to the Material Declaration Inges to produ Site Informa Chip Site	o 🗵	Material De production release. Up obtained fre ification result Chip Site Orio Code (20L)	clarations or Proc data and will be a con production re om the <u>TI ECO we</u> ting from this Po	available following the lease the revised rep <u>ebsite</u> . CN: Country Code (21L)	e production orts can be Chip Site City
Chan	No Impact to the Material Declaration Site Informa Chip Site SH-BIP-1 RFAB	o 🗵	Material De production release. Up obtained fro ification result Chip Site Orig Code (20L) SHE	clarations or Proc data and will be a con production re om the <u>TI ECO we</u> ting from this Po	available following the lease the revised rep <u>ebsite</u> . CN: Country Code (21L) USA	e production orts can be Chip Site City Sherman
Chan Fab	No Impact to the Material Declaration Site Informa Chip Site SH-BIP-1 RFAB Rev: ent	oct ident	Material De production release. Up obtained fre ification result Chip Site Orig Code (20L) SHE RFB	clarations or Proc data and will be a con production re om the <u>TI ECO we</u> ting from this Po	available following the lease the revised rep <u>ebsite</u> . CN: Country Code (21L) USA	e production orts can be Chip Site City Sherman
Chan Fab	No Impact to the Material Declaration Site Informa Chip Site SH-BIP-1 RFAB Rev: ent Rev [2P]	oct ident	Material De production release. Up obtained fro ification result Chip Site Orio Code (20L) SHE RFB	clarations or Proc data and will be a con production re om the <u>TI ECO we</u> ting from this Po	available following the lease the revised rep <u>ebsite</u> . CN: Country Code (21L) USA	e production orts can be Chip Site City Sherman
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Chan Fab Die R Curre Die E, Asse	No Impact to the Material Declaration Site Informa Chip Site SH-BIP-1 RFAB Rev: ent Rev [2P] , G, K, or T	Ct ident	Material De production release. Up obtained fra ification result Chip Site Orig Code (20L) SHE RFB	clarations or Proc data and will be a con production re om the <u>TI ECO we</u> ting from this Po gin Chip Site	Available following the lease the revised representation of the bolice. CN: Country Code (21L) USA USA USA A	e production orts can be Chip Site City Sherman Richardson
Chan Fab Die F Curre Die E, Asse	No Impact to the Material Declaration Site Informa Chip Site SH-BIP-1 RFAB Rev: ent Rev [2P] , G, K, or T	Ct ident	Material De production release. Up obtained fro chip Site Orig Code (20L) SHE RFB REV [2P] B Dn: nbly Site Origin (22L)	Assembly Cou	Available following the lease the revised representation of the lease the revised representation of the lease the revised representation and the revised re	e production orts can be Chip Site City Sherman Richardson sembly City
Chan Fab Die F Curre Die E, Asse	No Impact to the Material Declaration Site Informa Chip Site SH-BIP-1 RFAB Rev: ent Rev [2P] , G, K, or T embly Site Inf ssembly Site MLA	Ct ident	Material De production release. Up obtained free chip Site Orig Code (20L) SHE RFB RFB RFB	clarations or Proc data and will be a con production re om the <u>TI ECO we</u> ting from this Po gin Chip Site	Available following the lease the revised representation of the lease the revised representation of the lease the revised representation country Code (21L) USA USA USA USA As Solution of the	e production orts can be Chip Site City Sherman Richardson sembly City uala Lumpur

NFM

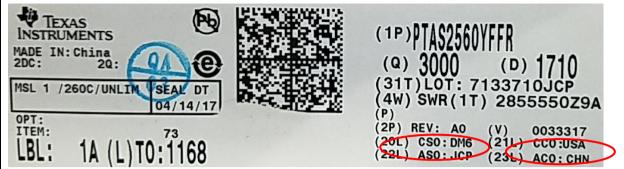
NFME

CHN

Economic

Development Zone

Sample product shipping label (not actual product label)



Product Affected:

Group 1 Device list (RFAB/Process migration & AT/BOM Updates for D Devices):								
CD74HC00M96	CD74HC30M96	SN74HC04DRG3	SN74HC14DRG4					
CD74HC02M96	CD74HC32M96	SN74HC04DRG4	SN74HC20DR					
CD74HC04M96	CD74HC4075M96	SN74HC08DR	SN74HC21DR					
CD74HC08M96	CD74HC7266M96	SN74HC08DRG4	SN74HC266DR					
CD74HC10M96	CD74HC74M96	SN74HC10DR	SN74HC27DR					
CD74HC11M96	CD74HC86M96	SN74HC11DR	SN74HC32DR					
CD74HC125M96	SN74HC00DR	SN74HC125DR	SN74HC32DRG4					
CD74HC126M96	SN74HC00DRG4	SN74HC125DRG4	SN74HC7001DR					
CD74HC132M96	SN74HC02DR	SN74HC126DR	SN74HC7002DR					
CD74HC14M96	SN74HC02DRG4	SN74HC132DR	SN74HC74DR					
CD74HC20M96	SN74HC03DR	SN74HC14DR	SN74HC74DRG4					
CD74HC21M96	SN74HC04DR	SN74HC14DRG3	SN74HC86DR					
CD74HC27M96								

Group 2 Device list (RFAB/Process migration & AT/BOM Updates for PW devices):

CD74HC08PWR	SN74HC02PWRG4	SN74HC11PWR	SN74HC20PWR
CD74HC14PWR	SN74HC03PWR	SN74HC125PWR	SN74HC21PWR
CD74HC30PWR	SN74HC04PWR	SN74HC125PWRG4	SN74HC32PWR
CD74HC4075PWR	SN74HC04PWRG4	SN74HC126PWR	SN74HC32PWRG4
SN74HC00PWR	SN74HC08PWR	SN74HC132PWR	SN74HC74PWR
SN74HC00PWRG4	SN74HC08PWRG4	SN74HC14PWR	SN74HC86PWR
SN74HC02PWR	SN74HC10PWR	SN74HC14PWRG4	

Group 3 Device list (RFAB/Process migration/NS devices BOM L	Jpdate at MLA):

CD74HC30NSR	SN74HC04NSR	SN74HC126NSR	SN74HC266NSR
CD74HC4075NSR	SN74HC08NSR	SN74HC132NSR	SN74HC27NSR
SN74HC00NSR	SN74HC10NSR	SN74HC14NSR	SN74HC32NSR
SN74HC02NSR	SN74HC11NSR	SN74HC20NSR	SN74HC74NSR
SN74HC03NSR	SN74HC125NSR	SN74HC21NSR	SN74HC86NSR

Group 1 (D Devices) Qual Memo:



TI Information Selective Disclosure

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

Туре	Test Name / Condition	Duration	QBS Product and Package Reference: <u>SN74HCS74QDRQ1</u>	QBS Process Reference: <u>SN74HCS74QPWRQ1</u>
PC	Preconditioning	Level 1-260C	3/828/0	3/828/0
ED	Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/90/0	3/90/0
CDM	ESD - CDM	2000V	1/3/0	-
CDM	ESD - CDM	1500V	-	1/3/0
HBM	ESD - HBM	7000V	1/3/0	1/3/0
HBM	ESD - HBM	8000V	1/3/0	-
LU	Latch-up	Per AEC Q100-004	1/6/0	1/6/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	3/2400/0
HTOL	Life Test, 150C	300 Hours	1/77/0	3/231/0
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hours	3/135/0	3/135/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0

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

	Туре:	ED	CDM	НВМ	LU
Te	st Name / Condition:	Electrical Characterization	ESD - CDM	ESD - HBM	Latch-up
	Duration:	Per Datasheet Parameters)	1000V	2000V	(Per AEC Q100-004)
Qual Device:	CD74HC00M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC02M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC04M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC08M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device: Qual	CD74HC10M96 CD74HC11M96	Pass	1/3/0	1/3/0	1/6/0
Quar Device: Qual	CD74HC125M96	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	CD74HC126M96	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	CD74HC132M96	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	CD74HC14M96	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	CD74HC20M96	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	CD74HC21M96	Pass	1/3/0	1/3/0	1/6/0
Device: Qual Device:	CD74HC27M96	Pass	1/3/0 1/3/0	1/3/0 1/3/0	1/6/0
Qual Device:	CD74HC30M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC32M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC4075M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC7266M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device: Qual	CD74HC74M96 CD74HC86M96	Pass	1/3/0	1/3/0	1/6/0
Qual Device: Qual	SN74HC00DR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC00DRG4	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC02DR	Pass	1/3/0	1/3/0	1/6/0
Device:		Pass	1/3/0	1/3/0	1/6/0

Qual Device:	<u>SN74HC02DRG4</u>	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC03DR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	<u>SN74HC04DR</u>	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC04DRG3	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC04DRG4	Pass	1/3/0	1/3/0	1/6/0
Qual	SN74HC08DR				
Device: Qual	SN74HC08DRG4	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC10DR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC11DR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC125DR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC125DRG4	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC126DR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC132DR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC14DR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC14DRG3	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC14DRG4	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC20DR	Pass	1/3/0	1/3/0	1/6/0
Device:	SN74HC21DR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:		Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC266DR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC27DR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC32DR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC32DRG4	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	<u>SN74HC7001DR</u>	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	<u>SN74HC7002DR</u>	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	<u>SN74HC74DR</u>	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC74DRG4	Pass	1/3/0	1/3/0	1/6/0
Qual	SN74HC86DR				
Device:		Pass	1/3/0	1/3/0	1/6/0

- QBS: Qual By Similarity

 Qual Devices are qualified at LEVEL1-260CG
 Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
 The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours - The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

Group 2 (PW Devices) Qual Memo:



TI Information Selective Disclosure

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

Туре	Test Name / Condition	Duration	QBS Product, Package, and Process Reference: <u>SN74HCS74QPWRQ1</u>
PC	Preconditioning	Level 1-260C	3/828/0
ED	Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/90/0
CDM	ESD - CDM	2000V	-
CDM	ESD - CDM	1500V	1/3/0
HBM	ESD - HBM	4000V	-
HBM	ESD - HBM	7000V	1/3/0
HBM	ESD - HBM	8000V	-
LU	Latch-up	Per AEC Q100-004	1/6/0
ELFR	Early Life Failure Rate, 125C	48 Hours	3/2400/0
HTOL	Life Test, 150C	300 Hours	3/231/0
AC	Autoclave 121C	96 Hours	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hours	3/135/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0

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

	Туре:	ED	CDM	НВМ	LU
Test Name / Condition:		Electrical Characterization	ESD - CDM	ESD - HBM	Latch-up
Duration:		(Per Datasheet Parameters)	1000V	2000V	(Per AEC Q100-004)
Qual Device:	CD74HC08PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC14PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC30PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	CD74HC4075PWR SN74HC00PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device: Qual	SN74HC00PWRG4	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC02PWR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC02PWRG4	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC03PWR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual Device:	SN74HC04PWR	Pass	1/3/0 1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC04PWRG4	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC08PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC08PWRG4 SN74HC10PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device: Qual	SN74HC11PWR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC125PWR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC125PWRG4	Pass	1/3/0	1/3/0	1/6/0
Device: Qual	SN74HC126PWR	Pass	1/3/0	1/3/0	1/6/0
Device: Qual Device:	SN74HC132PWR	Pass	1/3/0 1/3/0	1/3/0 1/3/0	1/6/0
Qual Device:	SN74HC14PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC14PWRG4	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC20PWR	Pass	1/3/0	1/3/0	1/6/0

Qual Device:	SN74HC21PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC32PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC32PWRG4	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC74PWR	Pass	1/3/0	1/3/0	1/6/0
Qual Device:	SN74HC86PWR	Pass	1/3/0	1/3/0	1/6/0

Texas Instruments Incorporated

PCN#20200629000.1

- QBS: Qual By Similarity

- Qual Devices are qualified at LEVEL1-260CG

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
 The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

Group 3 (NS Devices) Qual Memo:



TI Information Selective Disclosure

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

Туре	Test Name / Condition	Duration	Qual Device: <u>SN74HC74NSR</u>	QBS Product and Process Reference: <u>SN74HCS74QPWRQ1</u>	QBS Package Reference: <u>1P8T245NSR</u>	QBS Package Reference: <u>PCM1801U</u>	QBS Package Reference: <u>TLC6946DBQR</u>
PC	Preconditioning	Level 1-260C	-	3/828/0	3/693/0	3/693/0	-
PC	Preconditioning	Level 3-260C	-	-	-	-	3/924/0
CDM	ESD - CDM	1500V	1/3/0	1/3/0	-	-	1/3/0
HBM	ESD - HBM	7000V	-	1/3/0	-	-	1/3/0
LU	Latch-up	(Per AEC-Q100-004)	-	1/6/0	-	-	-
LU	Latch-up	(Per JESD78)	-	-	-	-	1/6/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	3/2400/0	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	3/231/0	-	-	-
HTOL	Life Test, 150C	408 Hours	-	-	-	-	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	-	-	-	3/231/0
AC	Autoclave 121C	96 Hours	-	3/231/0	3/231/0	3/231/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	-	-	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hours	-	3/135/0	-	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	-	-	3/231/0	3/231/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0	3/231/0	3/231/0

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

	Туре:	ED	CDM	НВМ	LU
Test Name / Condition:		Electrical Characterization	ESD - CDM	ESD - HBM	Latch-up
	Duration:	(Per Datasheet Parameters)	1000V	2000V	(Per AEC Q100-004)
Qual Device:	<u>CD74HC30NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>CD74HC4075NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC00NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC02NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC03NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC04NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC08NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC10NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC11NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	SN74HC125NSR	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC126NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	SN74HC132NSR	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC14NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC20NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC21NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC266NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC27NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC32NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC74NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*
Qual Device:	<u>SN74HC86NSR</u>	Pass	1/3/0	1/3/0*	1/6/0*

Test results from die ran in PW and D packages - *

- QBS: Qual By Similarity

- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

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 ⁻ Qual Devices are qualified at LEVEL1-260CG
 - Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

⁻ The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

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