

<b>PCN Number:</b>	20211004002.1	<b>PCN Date:</b>	October 06, 2021
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**Title:** DP83826 Design Change and Datasheet Update

**Customer Contact:** [PCN Manager](#) **Dept:** Quality Services

**Proposed 1<sup>st</sup> Ship Date:** Jan 6, 2022 **Estimated Sample Availability:** Date provided at sample request.

<b>Change Type:</b>			
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input checked="" type="checkbox"/>	Design	<input checked="" type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>		<input type="checkbox"/>	Part number change
<input type="checkbox"/>		<input type="checkbox"/>	Assembly Materials
<input type="checkbox"/>		<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>		<input type="checkbox"/>	Test Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process

### PCN Details

**Description of Change:**

This notification is to inform of a design change to the DP83826 devices. Affected devices are listed in the Product Affected section of this document.

The minor metal design change was performed for device improvements highlighted in the Datasheet change.

The datasheet revision will be changing:

	Current	New
Product Family	Datasheet Revision	Datasheet Revision
DP83826	SNLS647D	SNLS647E

The product datasheet(s) is being updated as summarized below:



DP83826E, DP83826I

SNLS647E – DECEMBER 2019 – REVISED SEPTEMBER 2021

**Changes from Revision D (October 2020) to Revision E (September 2021)**

**Page**

• Pin 31 default is changed to LED1, added odd nibble detection and FLD detection mechanisms in hardware bootstrap differences table.....	4
• Added TX_ER to pin 28.....	5
• Pin 31 default is changed to LED1.....	8
• Pin 31 default is changed to LED1, updated pin 16 and pin 31 to PU.....	8
• Added fast link drop modes table, updated description for fast link drop functionality in Included specification for the different defaults between enhanced and basic mode, added strap8 description.....	45
• Added description that LED1/0 are autopolarity (enhanced), active low by default (basic).....	46
• Added odd nibble detection table, added strap7 and strap1 interaction to MII MAC mode strap table, added signal energy alternate function to strap8.....	48
• Pin 31 default is changed to LED1, pin 16 default changed to half duplex.....	50
• TPI network cap updates.....	141

This product change notification is considered the final datasheet notification. The product datasheet will be available after expiration of this PCN. Although the datasheet will not be published on the TI website for review, these documents are available. If customers require a preview datasheet prior to PCN expiration or have additional questions regarding the datasheet change, please contact [geet.modi@ti.com](mailto:geet.modi@ti.com).

**Reason for Change:**

Improved performance for customer use cases

**Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):**

None

**Changes to product identification resulting from this PCN:**

Die Rev designator will change as shown in the table and sample label below:

Current	New
Die Rev [2P]	Die Rev [2P]
A	B

Sample product shipping label (not actual product label)

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

(1P) SN74LS07NSR  
 (Q) 2000 (D) 0336  
 (31T) LOT: 3959047MLA  
 (4W) TKY (1T) 7523483SI2  
 (P)  
**(2P) REV:** (V) 0033317  
 (20L) CSO: SHE (21L) CCO:USA  
 (22L) ASO: MLA (23L) ACO: MYS

**Product Affected: Design Change and datasheet updates**

DP83826ERHBR	DP83826ERHBT	DP83826IRHBR	DP83826IRHBT
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**Qualification Report**

Approved- 09-03-21

**Qualification Results**

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

Type	Test Name / Condition	Duration	Qual Device: DP83826ERHBRT	Qual Device: DP83826ERHBR	QBS: Device Reference DP83825IRMQR DP83825IRMQT	Qua Device Reference DP83825IRMQR DP83825IRMQT	QBS: Process References DS90UH947TRGCR Q1
HTOL	High Temp Operating Life, 125C	1000 Hours	-	1/77/0	1/77/0	1/77/0	3/231/0
HTOL	High Temp Operating Life, 125C	500 Hours	-	1/77/0	-	1/77/0	-
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-	-	3/2400/0
TC	**T/C - 65C/150C	500 Cycles	-	1/77/0	3/231/0	-	3/231/0
UHAST	Biased HAST, 130C/85% RH	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	170C (168, 420 Hours)	-	-	3/231/0	-	-
ED	Electrical Characterization	Limit Verification	Pass	Pass	-	Pass	Pass
CDM	ESD CDM	1500V	-	1/3/0	1/3/0	1/3/0	1/3/0
HBM	ESD HBM	4000V	-	1/3/0	1/3/0	1/3/0	1/3/0
HBM	ESD HBM, MDI	5000V	-	1/3/0	-	-	-

	Pins(Pins 4,5,6,7)						
LU	Latch-up, 25C	(per JESD78)	-	1/6/0	1/6/0	1/6/0	1/6/0
LU	Latch-up, 85C	(per JESD78)	-	1/6/0	1/6/0	1/6/0	1/6/0
BPC	Bond Pad Cratering Check	Post 500 Temp Cyc	-		3/5/0	-	
BPC	Bond Pad Cratering Check	Post assembly	-		3/6/0	-	
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	-	Pass	Pass	-	
TC-BP	Post T/C bond-pull strength	Wires	-		3/30/0	-	
TC-SAM	Post Temp Cycle SAM	Pre and Post MSL	-		3/30/0	-	
WBP	Bond Pull	Wires	-		3/228/0	-	
BLR	BLR - Temp Cycle (QFN), -40/125C	1000 Cycles	-		1/32/0	-	
SD	Solderability w. Bake precon	4 Hours/@ 155C, Pb Free	-		3/45/0	-	
SD	Solderability w. Bake precon	4 Hours/@ 155C, Pb	-		3/45/0	-	
TPI	Thermal Path Integrity	MSL Level 2, 260C	--	1/12/0			

- QBS: Qual By Similarity

- Qual Device DP83826ERHBR is qualified at LEVEL2-260C

- 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

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