

PCN Number:	20240529004.1	PCN Date:	May 29, 2024																		
Title:	Qualification of RFAB using qualified Process Technology, Die Revision, Datasheet update and additional Assembly Site/BOM options for select devices																				
Customer Contact:	Change Management Team	Dept:	Quality Services																		
Proposed 1st Ship Date:	August 27, 2024	Sample requests accepted until:	June 28, 2024*																		
*Sample requests received after June 28, 2024 will not be supported.																					
Change Type:																					
☒	Assembly Site	☒	Design																		
☒	Assembly Process	☒	Data Sheet																		
☒	Assembly Materials	☐	Part number change																		
☐	Mechanical Specification	☐	Test Site																		
☒	Packing/Shipping/Labeling	☐	Test Process																		
☐		☐	Wafer Bump Material																		
☐		☐	Wafer Bump Process																		
☐		☒	Wafer Fab Site																		
☐		☒	Wafer Fab Material																		
☐		☒	Wafer Fab Process																		
PCN Details																					
Description of Change:																					
Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab option in addition to an Assembly site/BOM options for the devices listed below.																					
<table border="1"> <thead> <tr> <th colspan="3">Current Fab Site</th> <th colspan="3">Additional Fab Site</th> </tr> <tr> <th>Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> <th>Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> </tr> </thead> <tbody> <tr> <td>SFAB</td> <td>CD4000</td> <td>150 mm</td> <td>RFAB</td> <td>LBC9</td> <td>300 mm</td> </tr> </tbody> </table>			Current Fab Site			Additional Fab Site			Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter	SFAB	CD4000	150 mm	RFAB	LBC9	300 mm	
Current Fab Site			Additional Fab Site																		
Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter																
SFAB	CD4000	150 mm	RFAB	LBC9	300 mm																
The die was also changed as a result of the process change.																					
Construction differences are as follows:																					
Group 1 device: (14N)																					
	JCETCZ	FMX	MLA (old)	MLA (new)																	
Wire diam/type	1.0mil Cu	0.96mil Cu	0.96mil Au, 0.96mil Cu	0.8mil Cu																	
Mount compound	11204001701	4147858	4042500, 4147858	4147858																	
Mold compound	131010100248	4211880	4042503, 4211880	4211880																	
Lead finish	Matte Sn	NiPdAu	NiPdAu	NiPdAu																	
Group 2 device: (14D)																					
	ASESH	FMX	MLA (old)	MLA (new)																	
Wire diam/type	1.0mil Cu, 0.8mil Au	0.96mil Cu	0.96mil Cu	0.8mil Cu																	
Mount compound	EY1000063	4147858	4147858	4147858																	
Mold compound	EN2000511	4211880	4211880	4211880																	
Lead finish	Matte Sn	NiPdAu	NiPdAu	NiPdAu																	
Group 3 device: (14NS)																					
	MLA (old)	MLA (new)																			
Wire diam/type	0.96mil Cu	0.8mil Cu																			
Group 4 device: (14PW)																					
	ASESH	MLA (old)	MLA (new)																		
Wire diam/type	1.0mil Cu	0.96mil Cu	0.8mil Cu																		
Mount compound	EY1000063	4147858	4147858																		
Mold compound	EN2000508	4211471	4211471																		
Lead finish	Matte Sn	NiPdAu	NiPdAu																		

The datasheets will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history. The links to the revised datasheets are available in the table below.



CD4016B

SCHS026D – NOVEMBER 1998 – REVISED MAY 2024

Changes from Revision C (September 2003) to Revision D (May 2024)	Page
• Increased IDD max/typ for the lower Temperature cases.....	5
• Changed typical I _{IH} to 0.5μA.....	5
• Changed typical I _{IL} to -0.1μA.....	5



CD4066B

SCHS051I – NOVEMBER 1998 – REVISED MAY 2024

Changes from Revision H (January 2020) to Revision I (May 2024)	Page
• Changed <i>Package Information</i> table to include package leads.....	1
• Changed the numbering format for tables, figures, and cross-references throughout the document.....	1
• Deleted the <i>J (CDIP, 14)</i> package from the data sheet.....	1
• Changed max and typ IDD for lower supply voltages.....	4
• Changed V _{IL} from 2V to 1V across supply.....	4

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
CD4016B	SCHS026C	SCHS026D	http://www.ti.com/product/CD4016B
CD4066B	SCHS051H	SCHS051I	http://www.ti.com/product/CD4066B

Qual details are provided in the Qual Data Section.

Reason for Change:

These changes are part of our multiyear plan to transition products from our 150-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

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

None

Impact on Environmental Ratings:

Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

RoHS	REACH	Green Status	IEC 62474
☒ No Change	☒ No Change	☒ No Change	☒ No Change

Changes to product identification resulting from this PCN:**Fab Site Information:**

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
SH-BIP-1	SHE	USA	Sherman
RFAB	RFB	USA	Richardson

Die Rev:**Current****New**

Die Rev [2P]	Die Rev [2P]
- , A	-

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
JCETCZ	JCC	CHN	Chuzhou
FMX	MEX	MEX	Aguascalientes
ASESH	ASH	CHN	Shanghai
MLA	MLA	MYS	Kuala Lumpur

Sample product shipping label (not actual product label):

**Product Affected:****Group 1 device: Wafer fab, Design, Assembly site, BOM**

CD4016BE	CD4016BEE4	CD4066BE	CD4066BEE4
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Group 2 device: Wafer fab, Design, Assembly site, BOM

CD4016BM96	CD4066BM96
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Group 3 device: Wafer fab, Design, BOM

CD4066BNSR

Group 4 device: Wafer fab, Design, Assembly site, BOM

CD4066BPWR

For alternate parts with similar or improved performance, please visit the product page on [TI.com](https://www.ti.com)

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: CD4066BPWR	QBS Reference (Package): SN74HCS74QPWRQ1	QBS Reference (Process): PCM6260QRTVRQ1	QBS Reference (Product): CD4051BPWR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	-	-
UHA	A3	Autoclave	121C/15psig	96 Hours	-	3/231/0	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	3/2400/0	-
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	-	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	-	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0	-	-
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	-	-	-
ESD	E2	ESD HBM	-	500 Volts	1/3/0	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: CD4066BPWR	QBS Reference (Package): SN74HCS74QPWRQ1	QBS Reference (Process): PCM6260QRTVRQ1	QBS Reference (Product): CD4051BPWR
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	1/30/0

- QBS: Qual By Similarity
- Qual Device CD4066BPWR is qualified at MSL1 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/>

TI Qualification ID: R-CHG-2303-050

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: CD4016BE	Qual Device: CD4016BM96	Qual Device: CD4066BE	Qual Device: CD4066BNSR	Qual Device: CD4066BM96	QBS Reference (Package): SN74HC595N	QBS Reference (Process): SN74HCS74QPWRQ1	QBS Reference (Package): MC33063ADR	QBS Reference (Package): ULN2003ANSR	QBS Reference (Product): CD4066BPWR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	-	-	-	3/231/0	-	-
UHA	A3	Autoclave	121C/15psig	96 Hours	-	-	-	-	-	3/231/0	-	-	-	-
UHA	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	-	-	-	-	3/231/0	1/77/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	-	3/231/0	-	3/231/0	1/77/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	-	-	3/231/0	-	3/231/0	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	-	-	3/231/0	-	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	-	-	3/2400/0	-	-	-
SD	C3	PB-Free Solderability	8 Hours Steam Age	-	-	-	-	-	-	3/66/0	-	-	-	-
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0	-	-	-	-	1/3/0
ESD	E2	ESD HBM	-	500 Volts	-	1/3/0	-	-	-	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	1/3/0	-	-	-	-	-	-	-	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	-	-	-	-	1/30/0

- QBS: Qual By Similarity
- Qual Device CD4016BE is qualified at NOT CLASSIFIED NOT CLASSIFIED
- Qual Device CD4016BM96 is qualified at MSL1 260C
- Qual Device CD4066BE is qualified at NOT CLASSIFIED NOT CLASSIFIED
- Qual Device CD4066BNSR is qualified at MSL1 260C

- Qual Device CD4066BM96 is qualified at MSL1 260C
- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
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- 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/>

TI Qualification ID: R-CHG-2401-090

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.

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