

PCN Number:	20221216001.1	PCN Date:	December 16, 2022
Title:	Qualification of RFAB as an additional Fab site option for select HPA07 devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Mar 16, 2023	Sample Requests accepted until:	Jan 16, 2023*

***Sample requests received after January 16, 2023 will not be supported.**

Change Type:

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

PCN Details

Description of Change:

Texas Instruments is pleased to announce the addition of RFAB as an additional Wafer Fab site option for the products listed in the "Product Affected" section of this document.

Current Fab Site			New Fab Site		
Current Fab Site	Process	Wafer Diameter	New Fab Site	Process	Wafer Diameter
DP1DM5	HPA07	200mm	RFAB	HPA07	300mm

Qual details are provided in the Qual Data Section.

Reason for Change:

Continuity of supply

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

None

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
DP1DM5	DM5	USA	Dallas
RFAB	RFB	USA	Richardson

Sample product shipping label (not actual product label)

Product Affected:

OPA171AID	OPA2171AIDCUR	OPA4171AIDR	TLV2171IDGKR
OPA171AIDBVR	OPA2171AIDCUT	OPA4171AIPW	TLV2171IDGKT
OPA171AIDBVT	OPA2171AIDGK	OPA4171AIPWR	TLV2171IDR
OPA171AIDR	OPA2171AIDGKR	TLV171IDBVR	TLV4171ID

OPA171AIDRLR	OPA2171AIDR	TLV171IDBVT	TLV4171IDR
OPA171AIDRLT	OPA4171AID	TLV171IDR	TLV4171IPWR
OPA2171AID			

Qualification Report
Approve Date 15-DECEMBER -2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: OPA4171AIDR	Qual Device: OPA4171AIPWR	QBS Reference: OPA4991QDRQ1	QBS Reference: TLV4197QPWRQ1	QBS Reference: CD3232A1YFFR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	1/77/0	3/231/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	1/77/0	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	1/77/0	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	2/154/0	1/77/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	1/45/0	1/45/0	3/231/0
HTOL	B1	Life Test	140C	480 Hours	-	-	-	1/77/0	2/154/0
HTOL	B1	Life Test	150C	300 Hours	1/77/0	-	-	-	-
ELFR	B2	ELFR	125C	48 Hours	-	-	-	-	2/2000/0
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	-	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	-	-
LU	E4	Latch-Up	Per JESD78	-	-	-	1/6/0	1/6/0	3/18/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	-	1/30/0

- QBS: Qual By Similarity
- Qual Device OPA4171AIDR is qualified at MSL3 260C
- Qual Device OPA4171AIPWR is qualified at MSL2 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

Qualification Report
Approve Date 15-DECEMBER -2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: OPA2171AIDR	Qual Device: OPA2171AIDCUR	Qual Device: OPA2171AIDGKR	QBS Reference: SN74LVC2G66QDCURQ1	QBS Reference: OPA4991QDRQ1	QBS Reference: TCA9517DGKRO1	QBS Reference: OPA4171AIDR	QBS Reference: CD3232A1YFFR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0	3/231/0	-	3/231/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	3/231/0	3/231/0	3/231/0	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	-	-	-	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	3/231/0	2/154/0	3/231/0	-	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	1/45/0	1/45/0	1/45/0	-	3/231/0
HTOL	B1	Life Test	140C	480 Hours	-	-	-	-	-	-	-	2/154/0
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	-	-	1/77/0	-
ELFR	B2	ELFR	125C	48 Hours	-	-	-	-	-	-	-	2/2000/0
SD	C3	Pb-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	1/15/0	-	1/15/0	-	3/66/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	-	3/30/0	-	3/30/0	-	3/60/0
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	-	-	-	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	-	-	-	1/6/0	1/6/0	1/6/0	-	3/9/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	-	-	-	1/30/0	1/30/0

- QBS: Qual By Similarity
- Qual Device OPA2171AIDR is qualified at MSL2 260C
- Qual Device OPA2171AIDCUR is qualified at MSL1 260C
- Qual Device OPA2171AIDGKR is qualified at MSL2 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

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Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

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Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: OPA171AIDR	Qual Device: OPA171AIDRLR	Qual Device: OPA171AIDBVR	Package QBS Reference: INA828ID	Package QBS Reference: TMP390AQDRLRQ1	Package QBS Reference: OPA388QDBVRQ1	Process QBS Reference: OPA4171AIDR	Process QBS Reference: CD3232A1YFFR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0	3/231/0	-	3/231/0
UHAST	A3	Unbiased HAST	130C	96 Hours	-	-	-	3/231/0	3/231/0	3/231/0	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	3/231/0	3/231/0	3/231/0	-	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	3/231/0	3/231/0	1/77/0	-	3/231/0
HTOL	B1	Life Test	140C	480 Hours	-	-	-	-	-	-	-	2/154/0
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	-	-	1/77/0	-
ELFR	B2	ELFR	125C	48 Hours	-	-	-	-	-	-	-	2/2000/0
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	1/3/0	-	-	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	1/3/0	-	-	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	-	-	-	1/6/0	-	-	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	3/90/0	-	-	1/30/0	1/30/0

- QBS: Qual By Similarity
- Qual Device OPA171AIDR is qualified at MSL2 260C

- Qual Device OPA171AIDRLR is qualified at MSL1 260C
- Qual Device OPA171AIDBVR is qualified at MSL2 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

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Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

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