



**12500 TI Boulevard, MS 8640, Dallas, Texas 75243**

**PCN#20250130000.2**  
**Qualification of additional BOM materials for selected devices**  
**Change Notification / Sample Request**

**Date:** January 30, 2025

**To:** MOUSER 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 60 days of the date of this notice. Lack of acknowledgement of this notice within 60 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 60 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 change management team.

For sample requests or sample related questions, contact your local Field Sales Representative.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Sincerely,

Change Management Team  
SC Business Services

**20250130000.2**  
**Change Notification / Sample Request**  
**Attachments**

**Products Affected:**

The devices listed on this page are a subset of the complete list of affected devices. According to our records, you have recently purchased these devices. The corresponding customer part number is also listed, if available.

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
TLC6C598QPWRQ1	TLC6C598QPWRQ1
TSC2013QPWRQ1	TSC2013QPWRQ1
UCC28951QPWRQ1	UCC28951QPWRQ1
ADS1259QPWRQ1	ADS1259QPWRQ1
PGA450TPWRQ1	PGA450TPWRQ1
TLC6C5912QPWRQ1	TLC6C5912QPWRQ1

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

<b>PCN Number:</b>	20250130000.2			<b>PCN Date:</b>	January 30, 2025
<b>Title:</b>	Qualification of additional BOM materials for selected devices				
<b>Customer Contact:</b>	Change Management team		<b>Dept:</b>	Quality Services	
<b>Proposed 1<sup>st</sup> Ship Date:</b>	July 29, 2025		<b>Sample Requests accepted until:</b>	March 31, 2025*	
<b>*Sample requests received after March 31, 2025 will not be supported.</b>					
<b>Change Type:</b>					
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Process
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Material
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Process
<b>PCN Details</b>					
<b>Description of Change:</b>					
This PCN is to inform of the qualification of an additional BOM materials for the list of devices in the product affected sections below.					
<b>What</b>		<b>Current</b>	<b>Additional</b>		
Mount Compound		4042500*/ 4211470	4147858		
*- applies to TPS54315QPWRDN					
Qualification results are shown below					
<b>Reason for Change:</b>					
Standardization					
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>					
None					
<b>Impact on Environmental Ratings</b>					
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.					
<b>RoHS</b>		<b>REACH</b>		<b>Green Status</b>	
<input checked="" type="checkbox"/> No Change		<input checked="" type="checkbox"/> No Change		<input checked="" type="checkbox"/> No Change	
<b>Changes to product identification resulting from this PCN:</b>					
None					
<b>Product Affected:</b>					
ADS1259QPWRQ1	SN1706003PWRQ1	TLC6C598QPWRQ1	UCC28951QPWRQ1		
PGA450TPWRQ1	TLC2274EPWRQ1	TPS54315QPWRDN			
SN1105051C1PWR	TLC6C5912QPWRQ1	TSC2013QPWRQ1			

# Qualification Report

## Automotive Qualification Summary

(As per AEC-Q100 Rev. J and JEDEC Guidelines)

Approve Date 12-DECEMBER -2024

### Product Attributes

Attributes	Qual Device: PGA450TPWRQ1	Qual Device: SN0811018PWR	QBS Package Reference: LDC5072A0PWQ1	QBS Package Reference: TLC59116ITPWRQ1	QBS Package Reference: TPIC6C596PWRG4	QBS Package Reference: SN36A0801GPWRQ
Automotive Grade Level	Grade 1	Grade 3	Grade 0	Grade 2	Grade 1	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 85	-40 to 160	-40 to 105	-40 to 125	-40 to 125
Product Function	Microprocessor	Microprocessor	ASIC	Power Management,Logic	Signal Chain	Power Management
Wafer Fab Supplier	DP1DM5	DP1DM5	RFAB	MH8	DL-LIN	AIZU
Assembly Site	TAI	TAI	TAI	TAI	TAI	TAI
Package Group	TSSOP	TSSOP	TSSOP	TSSOP	TSSOP	TSSOP
Package Designator	PW	PW	PW	PW	PW	PW
Pin Count	28	20	16	28	16	16

QBS: Qual By Similarity, also known as Generic Data  
Qual Device PGA450TPWRQ1 is qualified at MSL2 260C  
Qual Device SN0811018PWR is qualified at MSL1 260C

### 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: PGA450TPWRQ1	Qual Device: SN0811018PWR	QBS Package Reference: LDC5072A0PWQ1	QBS Package Reference: TLC59116ITPWRQ1	QBS Package Reference: TPIC6C596PWRG4	QBS Package Reference: SN36A0801GPWRQ
Test Group A - Accelerated Environment Stress Tests													
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	-	3/498/0	-	3/0/0	3/0/0	3/1095/0
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL2 260C	-	3/633/0	-	-	-	-	-
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL3 260C	-	-	-	3/0/0	-	-	-
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	3/231/0	3/231/0	3/231/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	3/231/0	3/231/0	3/231/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	130C/85%RH	96 Hours	3/231/0	3/231/0	-	-	-	-
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	3/231/0	-	3/231/0	3/231/0	3/231/0
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	1/5/0	1/5/0	-	1/5/0	3/15/0	1/5/0
TC-SAM	A4	-	3	3	Post TC SAM	<50% delamination	-	3/36/0	3/36/0	-	-	-	-
PTC	A5	JEDEC JESD22-A105	1	45	PTC	-40/105C	1000 Cycles	-	-	-	1/45/0	-	-

PTC	A5	JEDEC JESD22-A105	1	45	PTC	-40/125C	1000 Cycles	-	-	-	-	1/45/0	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	3/135/0	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	175C	1000 Hours	-	-	3/231/0	-	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	175C	500 Hours	-	-	-	1/45/0	-	-
Test Group B - Accelerated Lifetime Simulation Tests													
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	-	-	-	-	3/231/0	3/231/0
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	408 Hours	-	-	-	1/77/0	-	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	3053 Hours	-	-	3/231/0	-	-	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	160C	500 Hours	-	-	3/231/0	-	-	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	150C	48 Hours	-	-	3/2400/0	-	-	-
EDR	B3	AEC Q100-005	1	77	NVM Endurance, Data Retention, and Op Life	Per QSS-009-018	1 Step	-	-	3/231/0	-	-	-
Test Group C - Package Assembly Integrity Tests													
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	3/90/0	3/90/0	-	1/30/0	3/90/0	1/30/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	3/90/0	3/90/0	-	1/30/0	3/90/0	1/30/0
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	-	-	1/15/0	-	-	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	1/15/0	1/15/0	1/15/0	-	3/45/0	-
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	3/30/0	3/30/0	-	-	3/30/0	1/10/0
Test Group D - Die Fabrication Reliability Tests													
EM	D1	JESD61	-	-	Electromigration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
TDDb	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
HCI	D3	JESD60 & 28	-	-	Hot Carrier Injection	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
BTI	D4	-	-	-	Bias Temperature Instability	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
SM	D5	-	-	-	Stress Migration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
Test Group E - Electrical Verification Tests													
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	-	-	-	1/3/0	-	1/3/0
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	4000 Volts	-	-	1/3/0	-	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	1500 Volts	-	-	-	1/3/0	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	-	-	-	-	-	1/3/0
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	750 Volts	-	-	1/3/0	-	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	Corner pins	1500 Volts	-	-	1/3/0	-	-	-
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	-	-	1/6/0	1/6/0	-	1/3/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	3/90/0	3/90/0	-	3/90/0	3/90/0	3/90/0

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  
**Ambient Operating Temperature by Automotive Grade Level:**

Grade 0 (or E): -40C to +150C

Grade 1 (or Q): -40C to +125C

Grade 2 (or T): -40C to +105C

Grade 3 (or I) : -40C to +85C

**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

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

ZVEI ID reference: SEM-PA-07

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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