12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**Notification# 20240401002.0**
**Datasheet for LMC608x, LMC66x, LMC603x, LMC648x, LMC649x**
**Information Only**

**Date:** April 02, 2024
**To:** MOUSER PCN

Dear Customer:

This is an information-only announcement of a change to a device that is currently offered by Texas Instruments.

The changes discussed within this notification are for your information only.

Any negotiated alternative change requirements will be provided via the customer's defined process. Customers with previously negotiated, special requirements will be handled separately. Any inquiries should be directed to your local Field Sales Representative.

For questions regarding this notice, contact your local Field Sales Representative or the Change Management team.

Sincerely,

Change Management Team
SC Business Services

**20240401002.0**
**Information Only Datasheet**
**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.

| DEVICE | CUSTOMER PART NUMBER |
|---|---|
| LMC6032IMX/NOPB | NULL |
| LMC6034IMX/NOPB | NULL |
| LMC6081AIMX/NOPB | NULL |
| LMC6082AIMX/NOPB | NULL |
| LMC6082IMX/NOPB | NULL |
| LMC6084IMX/NOPB | NULL |
| LMC6482AIMX/NOPB | NULL |
| LMC6482AIN/NOPB | NULL |
| LMC6482IMMX/NOPB | NULL |
| LMC6482IMX/NOPB | NULL |
| LMC6482IN/NOPB | NULL |
| LMC6484AIMX/NOPB | NULL |
| LMC6484IMX/NOPB | NULL |
| LMC6484IN/NOPB | NULL |
| LMC6492AEMX/NOPB | NULL |
| LMC6492BEMX/NOPB | NULL |
| LMC660AIMX/NOPB | NULL |
| LMC660CMX/NOPB | NULL |
| LMC662AIMX/NOPB | NULL |
| LMC662CMX/NOPB | NULL |

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

| | | | |
|---|---|---|---|
| **PCN Number:** | 20240401002.0 | **PCN Date:** | April 02, 2024 |
| **Title:** | Datasheet for LMC608x, LMC66x, LMC603x, LMC648x, LMC649x | | |
| **Customer Contact:** | Change Management team | **Dept:** | Quality Services |
| **Change Type:** | Electrical Specification | | |

## PCN Details

**Description of Change:**

Texas Instruments Incorporated is announcing an information only notification.
The product datasheet(s) is being updated as summarized below.
The following change history provides further details.

TEXAS INSTRUMENTS

**LMC6081, LMC6082, LMC6084**
SNOS630E – AUGUST 2000 – REVISED FEBRUARY 2024

| Changes from Revision D (March 2013) to Revision E (February 2024) | Page |
|---|---|
| • Added LMC6081 and LMC6084 devices and associated content | 1 |
| • Changed output swing load condition from 100kΩ to 2kΩ, single supply operation from 15V to 15.5V, and high voltage gain from 130dB to 123dB in *Features* to match the *Electrical Characteristics* | 1 |
| • Updated device description in *Description* | 1 |
| • Added *Pin Configurations and Functions* | 3 |
| • Added *Thermal Information* | 6 |
| • Changed separate DC and AC *Electrical Characteristics* into single *Electrical Characteristics* | 7 |
| • Changed parameter names to conform to latest data sheet standards in *Electrical Characteristics* | 7 |
| • Changed input current noise density specification from 0.2fA/√Hz to 4fA/√Hz in *Electrical Characteristics* | 7 |
| • Changed total harmonic distortion specification from 0.01% to 0.2% in *Electrical Characteristics* | 7 |
| • Added footnote detailing how slew rate minimum specification is specified in *Electrical Characteristics* | 7 |
| • Added offset voltage vs input common mode voltage and input bias vs common mode voltage curves in *Typical Characteristics* | 11 |
| • Added $R_L$, $V_{CM}$, and $V_{OUT}$ conditions to the *Typical Characteristics* header | 11 |
| • Deleted Figure 4 and Figure 5 from *Typical Characteristics* | 11 |
| • Updated description in *Amplifier Topology* | 15 |
| • Added reference to RES11A instrumentation amplifier circuit in *Typical Single-Supply Applications* | 17 |
| • Added *Instrumentation Amplifier* section | 18 |

TEXAS INSTRUMENTS

**LMC660, LMC662**
SNOSC51D – MARCH 1998 – REVISED FEBRUARY 2024

| Changes from Revision C (March 2013) to Revision D (February 2024) | Page |
|---|---|
| • Added quad channel LMC660 device and associated content | 1 |
| • Deleted low distortion and added low noise to *Features* | 1 |
| • Updated description text in *Description* | 1 |
| • Updated pin configuration diagram and added pin functions table | 2 |
| • Added *Thermal Information* | 5 |
| • Changed separate DC and AC *Electrical Characteristics* into single *Electrical Characteristics* | 6 |
| • Changed parameter names to conform to new standards in *Electrical Characteristics* | 6 |
| • Changed input current noise density from 0.0002pA/√Hz to 4fA/√Hz to align with modern noise test setup | 6 |
| • Changed total harmonic distortion specification from 0.01% to 0.2% in *Electrical Characteristics* | 6 |
| • Added footnote detailing how slew rate minimum specification is specified in *Electrical Characteristics* | 6 |
| • Added *Offset Voltage vs Input Common-Mode Voltage* and *Input Bias vs Common-Mode Voltage* curves | 10 |
| • Updated section text and circuit topology diagram in *Amplifier Topology* | 13 |
| • Added instrumentation amplifier circuit with RES11A in *Typical Single Supply Applications* | 16 |

TEXAS INSTRUMENTS

LMC6032, LMC6034

SNOS809D – NOVEMBER 1994 – REVISED FEBRUARY 2024

**Changes from Revision C (March 2013) to Revision D (February 2024)** **Page**

- Added LMC6034 and related information ..... 1
- Changed $I_Q$ from 400µA to 375µA to match *Electrical Characteristics* in *Features* ..... 1
- Changed high voltage gain from 12dB to 126dB (typo) in *Features* ..... 1
- Added low noise and deleted low distortion in *Features* ..... 1
- Added OPA928 higher-performance reference in *Description* ..... 1
- Added *Pin Configuration and Functions* ..... 2
- Added *Thermal Information* ..... 5
- Changed parameter names to conform with new standards in *Electrical Characteristics* ..... 6
- Changed input current noise specification from 0.0002pA/√Hz to 4fA/√Hz in *Electrical Characteristics* ..... 6
- Changed total harmonic distortion specification from 0.01% to 0.2% in *Electrical Characteristics* ..... 6
- Updated conditions in the header of *Typical Characteristics* ..... 8
- Added input offset voltage vs common mode voltage and input bias current vs common mode voltage ..... 8
- Updated description and circuit topology diagram in *Amplifier Topology* ..... 11
- Added new instrumentation amplifier circuit using the RES11A to *Typical Applications* ..... 15

TEXAS INSTRUMENTS

LMC6482
LMC6484

SNOS674I – OCTOBER 1997 – REVISED FEBRUARY 2024

**Changes from Revision H (November 2023) to Revision I (February 2024)** **Page**

- Added LMC6484 and associated content ..... 1
- Updated content from previous LMC6484 data sheet (SNOS675D) as detailed in *Changes from Revision G (April 2020) to Revision H (November 2023)* of this data sheet (SNOS674I) ..... 1
- Added values for LMC6482 and LMC6484 based on latest modeling standard to *Thermal Information* ..... 5
- Updated *Electrical Characteristics* format for LMC6484 and as detailed in *Changes from Revision G (April 2020) to Revision H (November 2023)* of this data sheet ..... 6
- Changed CMRR from 62dB to 60dB to match LMC6484 in *Electrical Characteristics: $V_S$ = 5V* ..... 6
- Updated footnote (2) on how slew rate minimum value is specified in *Electrical Characteristics: $V_S$ = 5V* ..... 6
- Changed THD from 0.01% to 0.02% in *Electrical Characteristics: $V_S$ = 3V* ..... 9

TEXAS INSTRUMENTS

LMC6492, LMC6494

SNOS724F – AUGUST 2000 – REVISED FEBRUARY 2024

**Changes from Revision E (November 2023) to Revision F (February 2024)** **Page**

- Added data to *Thermal Information* ..... 4
- Updated footnote (2) to detail how slew rate minimum value is specified in *Electrical Characteristics* ..... 5

The datasheet number will be changing.

| Device Family | Change From: | Change To: |
|---|---|---|
| LMC608x | SNOS630D<br>SNOS649C<br>SNOS657D | **SNOS630E** |
| LMC66x | SNOSBZ3D<br>SNOSC51C | **SNOSC51D** |
| LMC603x | SNOS608C<br>SNOS609C | **SNOS609D** |
| LMC648x | SNOS674H<br>SNOS675D | **SNOS674I** |
| LMC649x | SNOS724E | **SNOS724F** |

These changes may be reviewed at the datasheet links provided.
http://www.ti.com/product/LMC6081
http://www.ti.com/product/LMC660
http://www.ti.com/product/LMC6032
http://www.ti.com/product/LMC6482
http://www.ti.com/product/LMC6492

**Reason for Change:**

This particular PCN is related to TI's multiyear transition plan for our two remaining factories with 150-millimeter production (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). DFAB will remain open, but will focus on 200-mm production, with a smaller set of technologies. SFAB will close no earlier than 2024 and no later than 2025. As referenced in the "reason for change" below, these changes are part of our multiyear plan to transition these products to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

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

No anticipated impact. This is a specification change announcement only. There are no changes to the actual device

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

None.

**Product Affected:**

| | | | |
|---|---|---|---|
| LMC6081AIMX/NOPB | LMC6081IMX/NOPB | LMC6082AIMX/NOPB | LMC6082IMX/NOPB |
| LMC6084AIMX/NOPB | LMC6084IMX/NOPB | LMC660AIMX/NOPB | LMC660CMX/NOPB |
| LMC662AIMX/NOPB | LMC662CMX/NOPB | LMC6032IMX/NOPB | LMC6034IMX/NOPB |
| LMC6482AIMX/NOPB | LMC6482AIN/NOPB | LMC6482IMMX/NOPB | LMC6482IMX/NOPB |
| LMC6482IN/NOPB | LMC6484AIMX/NOPB | LMC6484AIN/NOPB | LMC6484IMX/NOPB |
| LMC6484IN/NOPB | LMC6492AEMX/NOPB | LMC6492BEMX/NOPB | LMC6494AEMX/NOPB |
| LMC6494BEMX/NOPB | | | |

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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