

PCN Number:	20240401002.0.A	PCN Date:	April 12, 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.



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 100k Ω to 2k Ω , single supply operation from 15V to 15.5V, and high voltage gain from 130dB to 123dB in <i>Features</i> to match the <i>Electrical Characteristics</i>	1
• Updated device description in <i>Description</i>	1
• Added <i>Pin Configurations and Functions</i>	3
• Added <i>Thermal Information</i>	6
• Changed separate DC and AC <i>Electrical Characteristics</i> into single <i>Electrical Characteristics</i>	7
• Changed parameter names to conform to latest data sheet standards in <i>Electrical Characteristics</i>	7
• Changed input current noise density specification from 0.2fA/ $\sqrt{\text{Hz}}$ to 4fA/ $\sqrt{\text{Hz}}$ in <i>Electrical Characteristics</i>	7
• Changed total harmonic distortion specification from 0.01% to 0.2% in <i>Electrical Characteristics</i>	7
• Added footnote detailing how slew rate minimum specification is specified in <i>Electrical Characteristics</i>	7
• Added offset voltage vs input common mode voltage and input bias vs common mode voltage curves in <i>Typical Characteristics</i>	11
• Added R_L , V_{CM} , and V_{OUT} conditions to the <i>Typical Characteristics</i> header.....	11
• Deleted Figure 4 and Figure 5 from <i>Typical Characteristics</i>	11
• Updated description in <i>Amplifier Topology</i>	15
• Added reference to RES11A instrumentation amplifier circuit in <i>Typical Single-Supply Applications</i>	17
• Added <i>Instrumentation Amplifier</i> section.....	18



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 <i>Features</i>	1
• Updated description text in <i>Description</i>	1
• Updated pin configuration diagram and added pin functions table.....	2
• Added <i>Thermal Information</i>	5
• Changed separate DC and AC <i>Electrical Characteristics</i> into single <i>Electrical Characteristics</i>	6
• Changed parameter names to conform to new standards in <i>Electrical Characteristics</i>	6
• Changed input current noise density from 0.0002pA/ $\sqrt{\text{Hz}}$ to 4fA/ $\sqrt{\text{Hz}}$ to align with modern noise test setup.....	6
• Changed total harmonic distortion specification from 0.01% to 0.2% in <i>Electrical Characteristics</i>	6
• Added footnote detailing how slew rate minimum specification is specified in <i>Electrical Characteristics</i>	6
• Added <i>Offset Voltage vs Input Common-Mode Voltage</i> and <i>Input Bias vs Common-Mode Voltage</i> curves ...	10
• Updated section text and circuit topology diagram in <i>Amplifier Topology</i>	13
• Added instrumentation amplifier circuit with RES11A in <i>Typical Single Supply Applications</i>	16

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

• Added LMC6034 and related information.....	1
• Changed I_Q from 400 μ A to 375 μ A to match <i>Electrical Characteristics</i> in <i>Features</i>	1
• Changed high voltage gain from 12dB to 126dB (typo) in <i>Features</i>	1
• Added low noise and deleted low distortion in <i>Features</i>	1
• Added OPA928 higher-performance reference in <i>Description</i>	1
• Added <i>Pin Configuration and Functions</i>	2
• Added <i>Thermal Information</i>	5
• Changed parameter names to conform with new standards in <i>Electrical Characteristics</i>	6
• Changed input current noise specification from 0.0002pA/ $\sqrt{\text{Hz}}$ to 4fA/ $\sqrt{\text{Hz}}$ in <i>Electrical Characteristics</i>	6
• Changed total harmonic distortion specification from 0.01% to 0.2% in <i>Electrical Characteristics</i>	6
• Updated conditions in the header of <i>Typical Characteristics</i>	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 <i>Amplifier Topology</i>	11
• Added new instrumentation amplifier circuit using the RES11A to <i>Typical Applications</i>	15

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

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

• Added data to <i>Thermal Information</i>	4
• Updated footnote (2) to detail how slew rate minimum value is specified in <i>Electrical Characteristics</i>	5

The datasheet number will be changing.

Device Family	Change From:	Change To:
LMC608x	SNOS630D SNOS649C SNOS657D	SNOS630E
LMC66x	SNOSBZ3D SNOSC51C	SNOSC51D
LMC603x	SNOS608C SNOS609C	SNOS609D
LMC648x	SNOS674H 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:

LMC6032IMX/NOPB	LMC6032IN/NOPB	LMC6034IMX/NOPB	LMC660AIMX/NOPB
LMC660CMX/NOPB	LMC662AIMX/NOPB	LMC662AIN/NOPB	LMC662CMX/NOPB
LMC662CN/NOPB	LMC6081-MDA	LMC6081AIMX/NOPB	LMC6081IMX/NOPB
LMC6081IN/NOPB	LMC6082AIMX/NOPB	LMC6082AIN/NOPB	LMC6082IMX/NOPB
LMC6082IN/NOPB	LMC6084AIMX/NOPB	LMC6084IMX/NOPB	LMC6482IMX/NOPB
LMC6484IMX/NOPB	LMC6484IN/NOPB	LMC6482IMMX/NOPB	LMC6482IN/NOPB
LMC6484AIN/NOPB	LMC6482AIN/NOPB	LMC6484AIMX/NOPB	LMC6482AIMX/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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