



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20240902002.1**  
**Datasheet for OPAx134**

**Change Notification**

**Date:** September 03, 2024  
**To:** MOUSER PCN

Dear Customer:

This is a notice of change to a product data sheet for a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within **30 days** of this notification.

The proposed first ship date is indicated 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, contact your local Field Sales Representative or the Change Management team.

Sincerely,

Change Management Team  
SC Business Services

**20240902002.1**  
**Data Sheet Change Notification**  
**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>
OPA134UA	NULL
OPA134UA/2K5	NULL
OPA2134PA	NULL
OPA2134PAG4	NULL
OPA2134UA	NULL
OPA2134UA/2K5	NULL
OPA2134UAE4	NULL
OPA2134UAG4	NULL
OPA4134UA	NULL
OPA4134UA/2K5	NULL
OPA4134UAE4	NULL

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

<b>PCN Number:</b>	20240902002.1			<b>PCN Date:</b>	September 03, 2024
<b>Title:</b>	Datasheet for OPAx134				
<b>Customer Contact:</b>	Change Management team	<b>Dept:</b>	Quality Services		
<b>Proposed 1<sup>st</sup> Ship Date:</b>	December 02, 2024				
<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 checked="" type="checkbox"/>	Datasheet	<input type="checkbox"/>	Wafer Bump Process
<input 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 Materials
<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>					
<p>The product datasheet(s) is being updated as summarized below.  The following change history provides further details.</p>					
			<b>OPA134, OPA2134, OPA4134</b> SBOS058B – DECEMBER 1997 – REVISED AUGUST 2024		

**Changes from Revision A (April 2015) to Revision B (August 2024) Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Updated open-loop gain load condition in *Features* ..... 1
- Deleted PDIP package option for quad version device..... 1
- Updated *Device Information* table..... 1
- Changed W to  $\Omega$  symbol in front-page figure (typo) ..... 1
- Updated *Pin Configuration and Functions* format..... 3
- Changed OPA134 pin 1 and 8 from "Offset Trim" to "NC"..... 3
- Changed input voltage from (V-) - 0.5V to (V+) + 0.5V to (V-) - 0.7V to (V+) + 0.7V in *Absolute Maximum Ratings* ..... 5
- Added input current and related footnote to *Absolute Maximum Ratings* ..... 5
- Added *Thermal Information* ..... 6
- Updated format of *Electrical Characteristics* ..... 7
- Updated nominal conditions in the header of *Electrical Characteristics* ..... 7
- Changed headroom from 23.6dB to 21.3dB..... 7
- Deleted slew rate MIN..... 7
- Changed overload recovery time from 0.5 $\mu$ s to 0.6 $\mu$ s..... 7
- Changed input offset voltage MIN from  $\pm 0.5$ mV to  $\pm 1$ mV and MAX from  $\pm 2$ mV to  $\pm 3.5$ mV..... 7
- Deleted input offset voltage over temperature MAX..... 7
- Changed channel separation from 135dB to 128dB for dc, and from 130dB to 126dB for f = 20kHz ..... 7
- Deleted note 3..... 7
- Added  $\pm$  to input bias current TYP..... 7
- Changed common-mode voltage MAX value from (V+) - 2.5V to (V+) - 3.5V..... 7
- Updated common-mode rejection ratio and common-mode input impedance test conditions..... 7
- Changed differential input impedance from  $10^{10}\Omega \parallel 1$ pF to  $10^{10}\Omega \parallel 5$ pF..... 7
- Changed common-mode input impedance from  $10^{10}\Omega \parallel 3$ pF to  $10^{10}\Omega \parallel 4.3$ pF..... 7
- Deleted open-loop voltage gain for  $R_L = 600\Omega$ ..... 7
- Deleted voltage output for  $R_L = 600\Omega$ ..... 7
- Moved voltage output negative MIN values to MAX values..... 7
- Deleted output current..... 7
- Deleted note 1 from *Electrical Characteristics* ..... 7
- Changed typos in typical characteristic graphs; corrected ohms symbol ( $\Omega$ ) and radical symbol ( $\sqrt{\quad}$ )..... 9
- Changed test condition for *Typical Characteristics* from  $V_S = 15$ V to  $V_S = \pm 15$ V (typo)..... 9
- Changed Figure 26, *Small-Signal Overshoot vs Load Capacitance* into new Figures 5-23 and 5-24..... 9
- Deleted old Figure 20, *Output Voltage Swing vs Output Current*, Figure 21, *Offset Voltage Production Distribution*, Figure 22, *Offset Voltage Drift Production Distribution* ..... 9
- Updated *Functional Block Diagram* ..... 15
- Updated *Offset Voltage Trim* ..... 16
- Updated *OPA134 Layout Example for the Noninverting Configuration* ..... 19

The datasheet number will be changing.

Device Family	Change From:	Change To:
OPAx134	SBOS058A	<b>SBOS058B</b>

These changes may be reviewed at the datasheet links provided.

<http://www.ti.com/product/OPA134>

**Reason for Change:**

To accurately reflect device characteristics.

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

Electrical specification performance changes as indicated above.

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

None.			
<b>Product Affected:</b>			
OPA134UA	OPA134UA/2K5	OPA2134PA	OPA2134PAG4
OPA2134UA	OPA2134UA/2K5	OPA2134UA/2K5E4	OPA2134UAE4
OPA2134UAG4	OPA4134UA	OPA4134UA/2K5	OPA4134UAE4

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

### IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale ([www.ti.com/legal/termsofsale.html](http://www.ti.com/legal/termsofsale.html)) or other applicable terms available either on [ti.com](http://ti.com) or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.