

# High Power Operational Amplifier

## ABSOLUTE MAXIMUM RATINGS

SUPPLY VOLTAGE, +V <sub>S</sub> to -V <sub>S</sub>	350V
OUTPUT CURRENT, continuous	60mA
INPUT VOLTAGE, differential	±16V
INPUT VOLTAGE, common mode	±V <sub>S</sub>
TEMPERATURE, junction	150°C

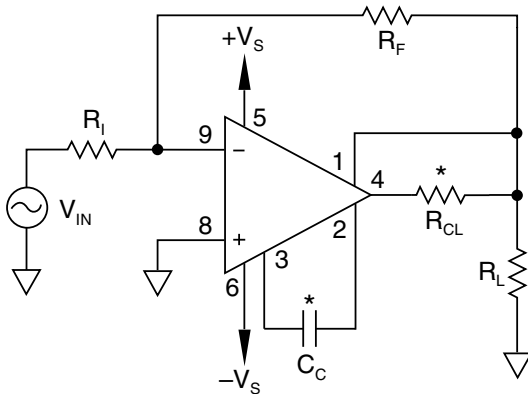
**NOTE:** Refer to parent product data sheet PA241 for typical AC electrical characteristics, precautions, applications and other test parameters.

## DC WAFER PROBED SPECIFICATIONS

PARAMETER	TEST CONDITIONS <sup>1</sup>	MIN	TYP	MAX	UNITS
OFFSET VOLTAGE, initial	V <sub>S</sub> = ±50V		15	40	mV
BIAS CURRENT, initial			56	200	pA
COMMON MODE REJECTION	V <sub>CM</sub> = ±90 V DC	84	94		dB
VOLTAGE SWING	I <sub>O</sub> = 40mA	±V <sub>S</sub> -12	±V <sub>S</sub> -10		V
SUPPLY CURRENT, quiescent	V <sub>S</sub> = ±50 V	1.8	2.1	2.3	mA

**NOTES:** 1. Unless otherwise stated V<sub>S</sub> = ±50 V, T<sub>A</sub> = 25°C, DC input specification ± value given.  
2. Sample tested by wafer to 95%.

## TYPICAL EXTERNAL CONNECTIONS



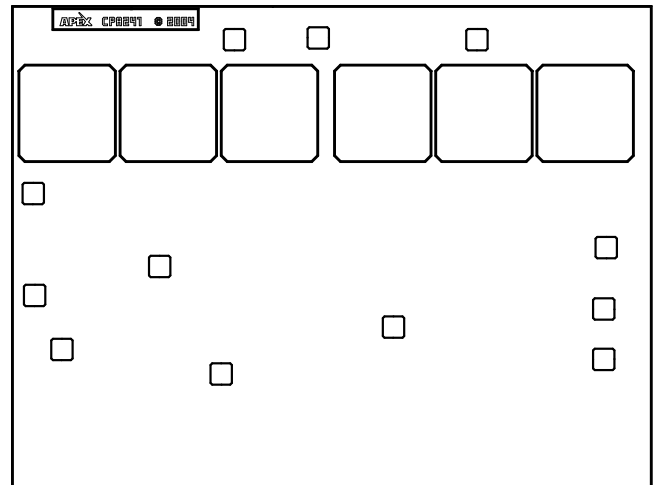
\* Required component and value if given.  
Optional balance components are recommended values.  
C<sub>C</sub> is NPO, rated for full supply voltage -V<sub>S</sub> to +V<sub>S</sub>.

**NOTE:** Diagram for connection illustration only.  
All op amp configurations are possible.

Pad	Function	Pad	Function
1	Output	5	+Vs
2	Compensation	6	-Vs
3	Compensation	8	+IN
4	Current Limit	9	-IN

**CAUTION** The CPA241 is a MOSFET amplifier. ESD handling procedures must be observed

## DIE LAYOUT



Dimension: 154.5 x 117.5 ± 2.5 Mils.  
Thickness: 15 Mil (380μ).  
Backside Metal: None, Silicon.  
Bond pad: 5 Mil sq (127μ) Al.  
Make no connection to bond pads not listed by function.

Note: The backside of the CPA241 die is isolated up to 500V. The top side walls of the CPA241 die are isolated up to 300V.

Ordering Information:  
Order #: CPA241DI80:  
Die are only available in wafer packages with a total of 80 die per package.

---

## CONTACTING CIRRUS LOGIC SUPPORT

For all Apex Precision Power product questions and inquiries, call toll free 800-546-2739 in North America.

For inquiries via email, please contact [apex.support@cirrus.com](mailto:apex.support@cirrus.com).

International customers can also request support by contacting their local Cirrus Logic Sales Representative.

To find the one nearest to you, go to [www.cirrus.com](http://www.cirrus.com)

---

### IMPORTANT NOTICE

Cirrus Logic, Inc. and its subsidiaries ("Cirrus") believe that the information contained in this document is accurate and reliable. However, the information is subject to change without notice and is provided "AS IS" without warranty of any kind (express or implied). Customers are advised to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current and complete. All products are sold subject to the terms and conditions of sale supplied at the time of order acknowledgment, including those pertaining to warranty, indemnification, and limitation of liability. No responsibility is assumed by Cirrus for the use of this information, including use of this information as the basis for manufacture or sale of any items, or for infringement of patents or other rights of third parties. This document is the property of Cirrus and by furnishing this information, Cirrus grants no license, express or implied under any patents, mask work rights, copyrights, trademarks, trade secrets or other intellectual property rights. Cirrus owns the copyrights associated with the information contained herein and gives consent for copies to be made of the information only for use within your organization with respect to Cirrus integrated circuits or other products of Cirrus. This consent does not extend to other copying such as copying for general distribution, advertising or promotional purposes, or for creating any work for resale.

CERTAIN APPLICATIONS USING SEMICONDUCTOR PRODUCTS MAY INVOLVE POTENTIAL RISKS OF DEATH, PERSONAL INJURY, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE ("CRITICAL APPLICATIONS"). CIRRUS PRODUCTS ARE NOT DESIGNED, AUTHORIZED OR WARRANTED TO BE SUITABLE FOR USE IN PRODUCTS SURGICALLY IMPLANTED INTO THE BODY, AUTOMOTIVE SAFETY OR SECURITY DEVICES, LIFE SUPPORT PRODUCTS OR OTHER CRITICAL APPLICATIONS. INCLUSION OF CIRRUS PRODUCTS IN SUCH APPLICATIONS IS UNDERSTOOD TO BE FULLY AT THE CUSTOMER'S RISK AND CIRRUS DISCLAIMS AND MAKES NO WARRANTY, EXPRESS, STATUTORY OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, WITH REGARD TO ANY CIRRUS PRODUCT THAT IS USED IN SUCH A MANNER. IF THE CUSTOMER OR CUSTOMER'S CUSTOMER USES OR PERMITS THE USE OF CIRRUS PRODUCTS IN CRITICAL APPLICATIONS, CUSTOMER AGREES, BY SUCH USE, TO FULLY INDEMNIFY CIRRUS, ITS OFFICERS, DIRECTORS, EMPLOYEES, DISTRIBUTORS AND OTHER AGENTS FROM ANY AND ALL LIABILITY, INCLUDING ATTORNEYS' FEES AND COSTS, THAT MAY RESULT FROM OR ARISE IN CONNECTION WITH THESE USES.

Cirrus Logic, Cirrus, and the Cirrus Logic logo designs, Apex Precision Power, Apex and the Apex Precision Power logo designs are trademarks of Cirrus Logic, Inc. All other brand and product names in this document may be trademarks or service marks of their respective owners.

---