



**SURFACE MOUNT WITH HEAT TAB ON  
TOP 52-PIN QFP PACKAGE STYLE**

Body 20mm x 20mm

# PA166PQ

Dual-Channel 205V, 1A/4A High Density, Multi-Purpose Power Amplifier IC

## Product Overview

The PA166 is the latest addition to Apex Microtechnology's family of high density, multi-purpose power amplifier ICs utilizing leading-edge package design. Designed with power density in mind, the PA166 comes equipped with a pair of high voltage operational amplifiers with monolithic cores. In a surface mount package and with a body of just 20mm x 20mm, each channel is designed for operation up to 205V while providing 1A of continuous current. PA166 features exceptional channel separation of 80dB, while optional separate supplies for the amplifier core and output stage allow for optimized voltage swing with an overall power dissipation of 2 x 26W. The PA166 comes equipped with several safety features for system protection, including temperature compensated current limit, an over-current flag, and an output disable function.

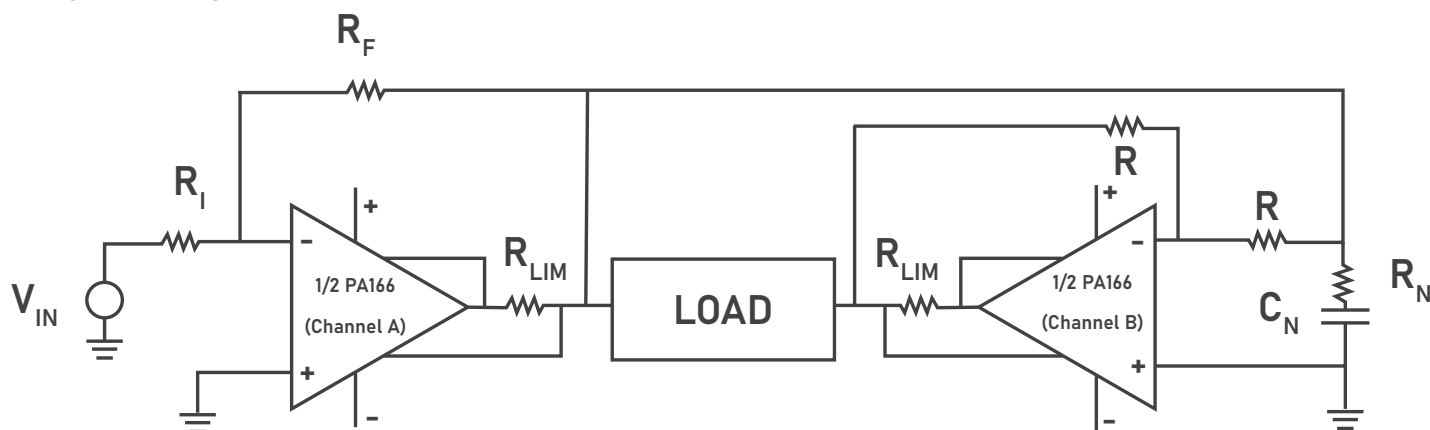
## Features

- Supply voltage - 205V
- Continuous output current - 1A
- Peak output current - 4A
- Internal power dissipation - 2 X 26W
- Surface mount package with top-side heatsinking
- Cost-effective, dual channel design
- Effective channel separation, 80dB
- High power density for bridge and parallel configurations
- Temperature compensated current limit

## Typical Applications

With the surface mount package style and exceptionally compact size, designers are afforded the ability to maximize board real estate, allowing for the use of multiple devices in circuit designs where high power density is a critical requirement. A wide range of target applications include high density voltage or current sources, electrostatic transducers, electrostatic/electromagnetic deflection, deformable mirror focusing, and piezo electric positioning.

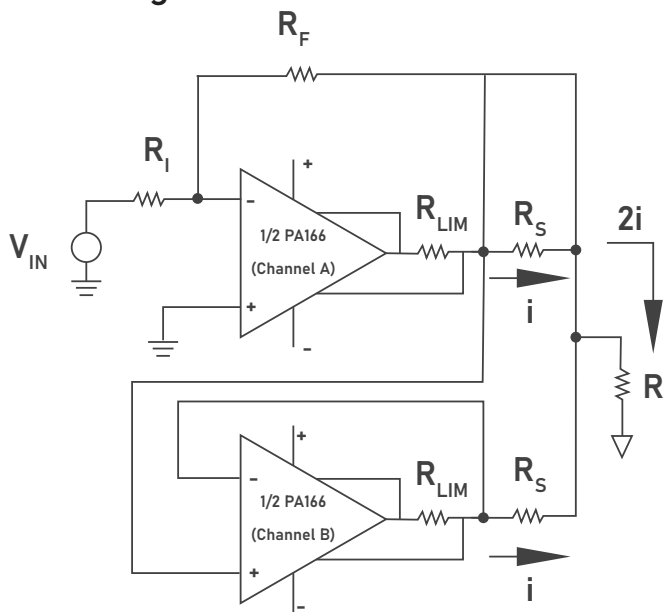
## Bridge Configuration



# PA166PQ

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## Parallel Configuration



## Product Specifications - Key Parameters

Specification Parameter	PA164	PA166
Output Current, Continuous within SOA	1A	1A
Output Current, Peak within SOA	4A	4A
Supply Voltage Operation	205V	205V
Internal Power Dissipation	28W	2 x 26W
Number of Channels	1	2
Temperature Compensated Current Limit	Yes	Yes
Over-Current Flag	Yes	Yes
Output Disable	Yes	Yes
Built-in Temperature Sensor	Yes	Yes
Gain Bandwidth Product at 1MHz	20 MHz	20 MHz
Slew Rate	35 V/ $\mu$ s	35 V/ $\mu$ s
RoHS Compliant	Yes	Yes
Package Style	QFP style, heat tab on top	QFP style, heat tab on top
Package Body Measurement	20mm x 20mm	20mm x 20mm

Temperature: 25°C



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