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4 Revision History

DATE	REVISION	NOTES
July 2021	*	Initial Release

5 Pin Configuration and Functions

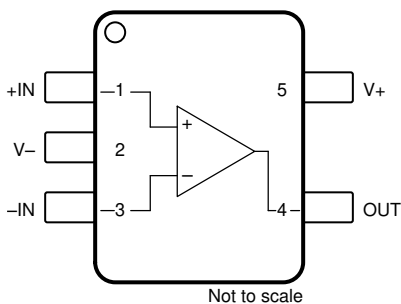


Figure 5-1. DCK Package, 5-Pin SC70, Top View

Table 5-1. Pin Functions

PIN		I/O	DESCRIPTION
NAME	NO.		
-IN	3	I	Inverting input
+IN	1	I	Noninverting input
OUT	4	O	Output
V-	2	—	Negative (lowest) power supply
V+	5	—	Positive (highest) power supply

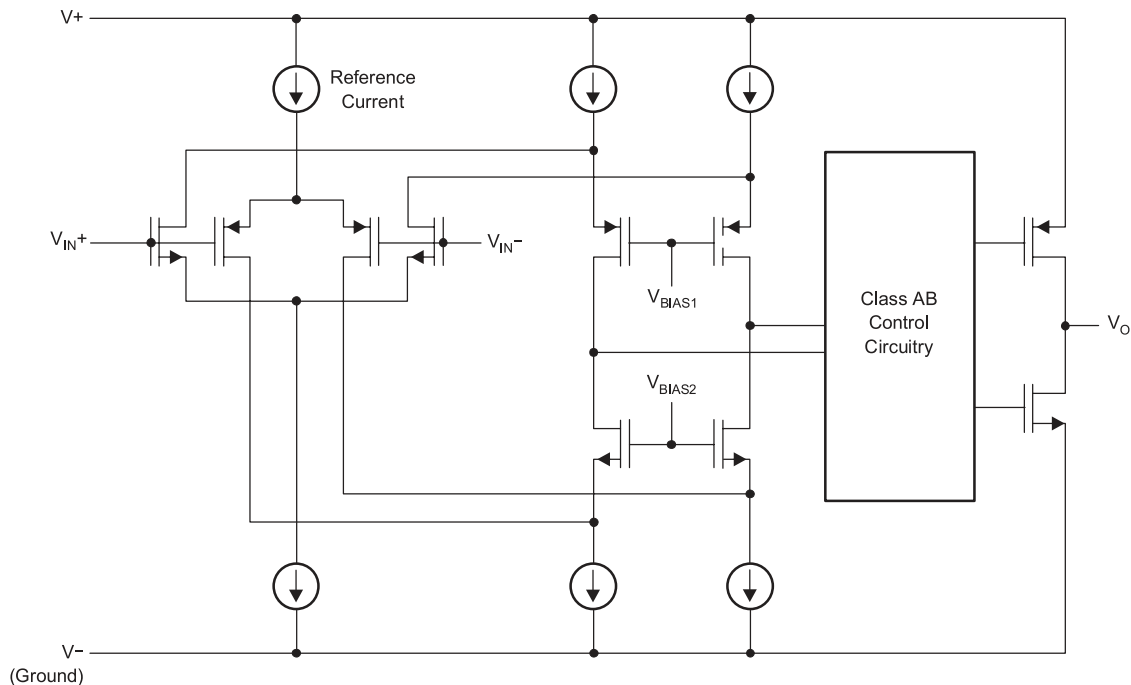
7 Detailed Description

7.1 Overview

The OPA396 is a low-offset, low-power e-trim operational amplifier (op amp) that uses a proprietary offset trim technique. This op amp offers ultra-low input offset voltage, drift and input bias current while achieving an excellent bandwidth-to-quiescent-current ratio. The OPA396 operates from 1.7 V to 5.5 V, is unity-gain stable, and is designed for a wide range of general-purpose and precision applications.

The output features an advanced output stage that tolerates high capacitive loading for solid and stable performance. The OPA396 strengths make this device an excellent amplifier for high-impedance sensors, where input bias current, offset voltage, and power consumption are critical.

7.2 Functional Block Diagram



9 Power Supply Recommendations

The OPA396 device is specified for operation from 1.7 V to 5.5 V (± 0.85 V to ± 2.75 V).

10 Layout

10.1 Layout Guidelines

Paying attention to good layout practice is always recommended. Keep traces short, and when possible, use a printed-circuit board (PCB) ground plane with surface-mount components placed as close as possible to the device pins. Place a 0.1- μ F capacitor closely across the supply pins. These guidelines must be applied throughout the analog circuit to improve performance and provide benefits, such as reducing the electromagnetic interference (EMI) susceptibility.

10.2 Layout Example

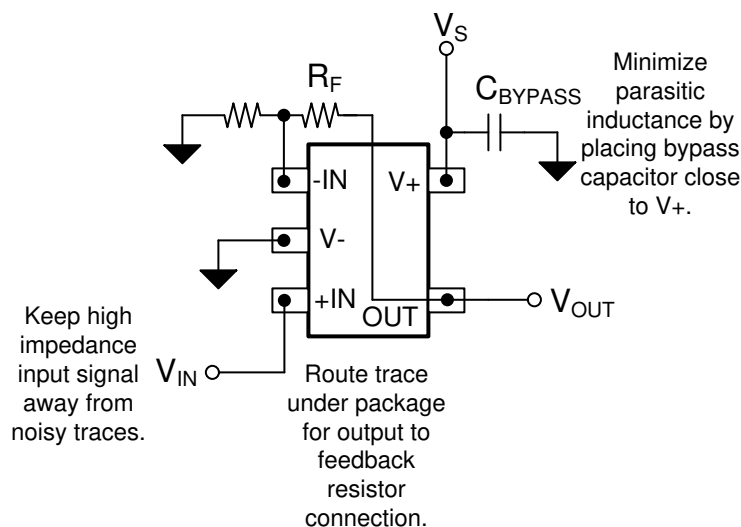


Figure 10-1. OPA396 Layout Example

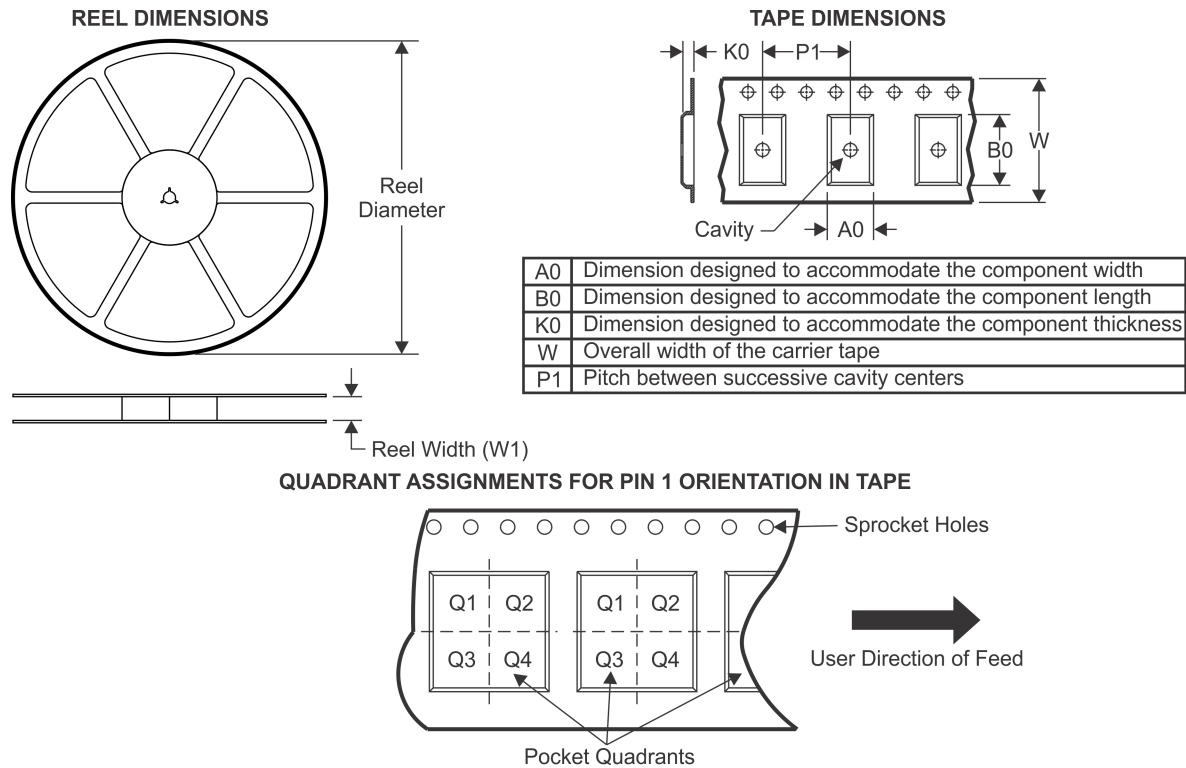
11.7 Glossary

[TI Glossary](#) This glossary lists and explains terms, acronyms, and definitions.

12 Mechanical, Packaging, and Orderable Information

The following pages include mechanical packaging and orderable information. This information is the most current data available for the designated devices. This data is subject to change without notice and revision of this document. For browser-based versions of this data sheet, refer to the left-hand navigation.

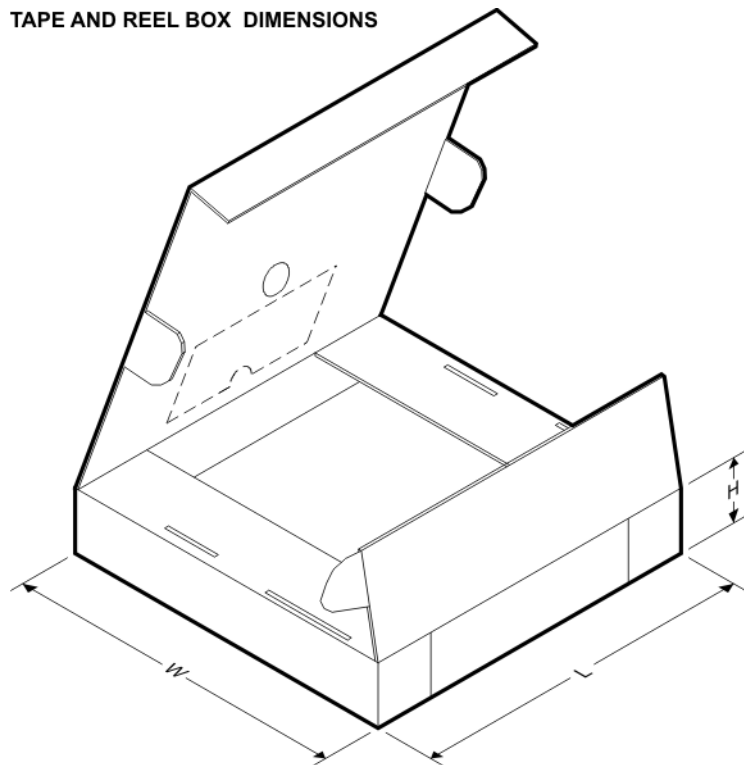
TAPE AND REEL INFORMATION



*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
OPA396DCKR	SC70	DCK	5	3000	178.0	9.0	2.4	2.5	1.2	4.0	8.0	Q3
OPA396DCKT	SC70	DCK	5	250	178.0	9.0	2.4	2.5	1.2	4.0	8.0	Q3

TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

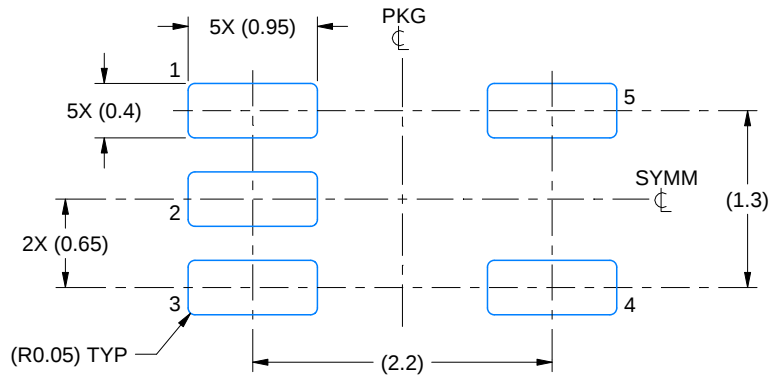
Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
OPA396DCKR	SC70	DCK	5	3000	190.0	190.0	30.0
OPA396DCKT	SC70	DCK	5	250	190.0	190.0	30.0

EXAMPLE BOARD LAYOUT

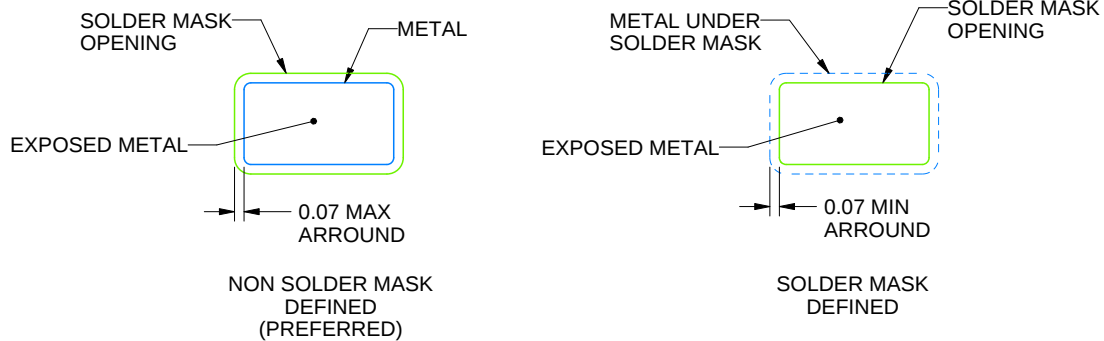
DCK0005A

SOT - 1.1 max height

SMALL OUTLINE TRANSISTOR



LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE:18X

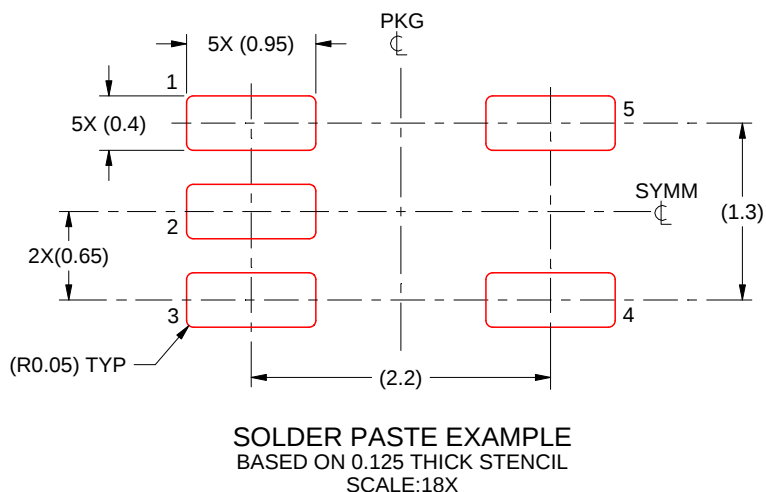


SOLDER MASK DETAILS

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NOTES: (continued)

4. Publication IPC-7351 may have alternate designs.
5. Solder mask tolerances between and around signal pads can vary based on board fabrication site.



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NOTES: (continued)

6. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
7. Board assembly site may have different recommendations for stencil design.

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