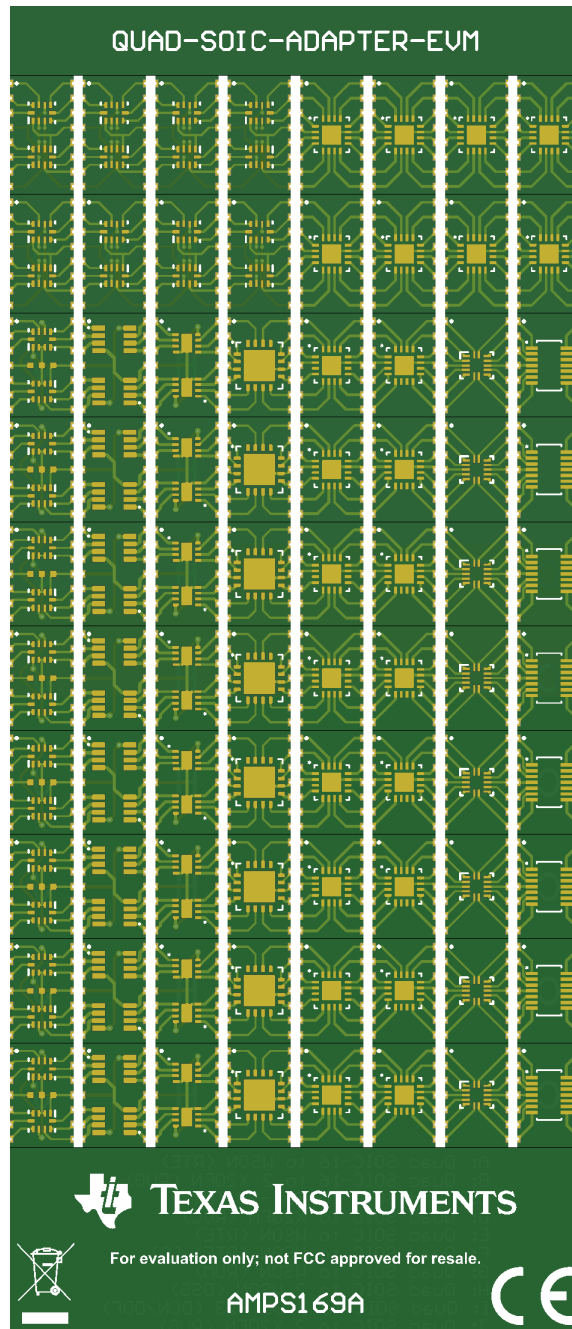


# QUAD-SOIC-ADAPTER-EVM



## Abstract

This user's guide contains support documentation for the QUAD-SOIC-ADAPTER evaluation module (EVM). Included in this document is a description of how to use the EVM, the printed circuit board (PCB) layout, and the bill of materials (BOM) for the QUAD-SOIC-ADAPTER-EVM.



## Table of Contents

<b>Abstract</b> .....	1
<b>1 Introduction</b> .....	3
<b>2 How to Use</b> .....	3
<b>3 Adapter Options</b> .....	4
3.1 A: WQFN (RTE) Shutdown.....	4
3.2 B: 2 × X2QFN (RUG) Shutdown.....	5
3.3 C: SOT-23-THN (DYY).....	5
3.4 D: X2QFN (RUC).....	6
3.5 E: WQFN (RTE).....	6
3.6 F: WQFN (RTE) Comparator.....	7
3.7 G: WQFN (RUM).....	7
3.8 H: 2 × WSON (DSG).....	8
3.9 I: 2 × SOT-23 (DCN/DDF).....	8
3.10 J: 2 × X2QFN (RUG).....	9
<b>4 Layout</b> .....	10
<b>5 Bill of Materials</b> .....	12

## List of Figures

Figure 3-1. Quad SOIC to WQFN (RTE) Shutdown.....	4
Figure 3-2. Quad SOIC to 2 × X2QFN (RUG) Shutdown.....	5
Figure 3-3. Quad SOIC to SOT-23-THN (DYY).....	5
Figure 3-4. Quad SOIC to X2QFN (RUC).....	6
Figure 3-5. Quad SOIC to WQFN (RTE).....	6
Figure 3-6. Quad SOIC to WQFN (RTE) Comparator.....	7
Figure 3-7. Quad SOIC to WQFN (RUM).....	7
Figure 3-8. Quad SOIC to 2 × WSON (DSG).....	8
Figure 3-9. Quad SOIC to 2 × SOT-23 (DCN/DDF).....	8
Figure 3-10. Quad SOIC to 2 × X2QFN (RUG).....	9
Figure 4-1. PCB Top Layer.....	10
Figure 4-2. PCB Bottom Layer.....	11

## List of Tables

Table 3-1. Device Recommendations.....	4
Table 5-1. Bill of Materials.....	12

## Trademarks

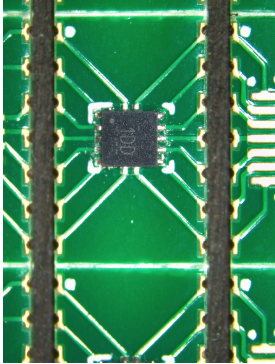
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## 1 Introduction

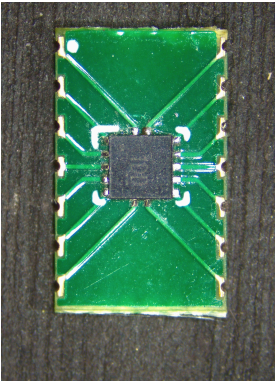
The QUAD-SOIC-ADAPTER-EVM allows for evaluation of 10 different packages onto quad-channel SOIC 14/16-pin footprints of operational amplifiers on existing PCBs. This permits the user to test op amps in different packages without making changes to the main PCB.

## 2 How to Use

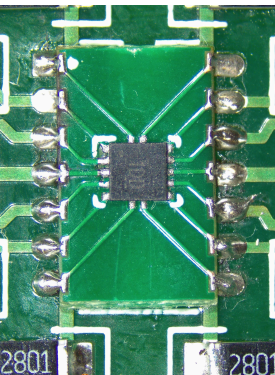
The QUAD-SOIC-ADAPTER-EVM comes depopulated. Devices must be ordered separately. To find a specific device in a specific package, use the [Find Product by Package](#) search tool.



Solder the IC(s) to the adapter PCB. Parts may be hand soldered or attached with hot air reflow techniques.



Gently flex panel at score lines to separate adapter boards.



Position the adapter board carefully over the footprint and solder it on.

### 3 Adapter Options

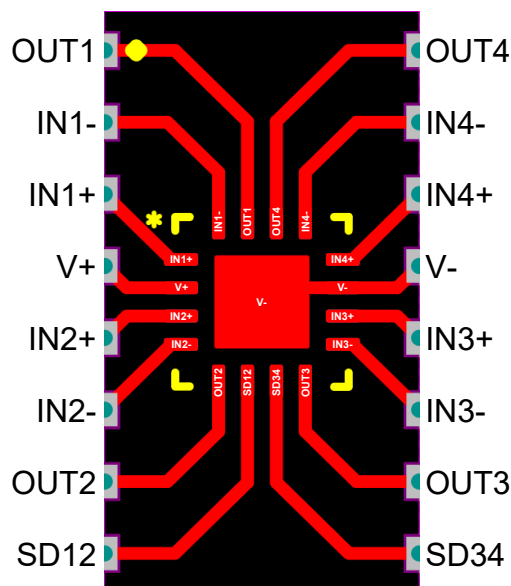
The QUAD-SOIC-ADAPTER-EVM allows for numerous packages to be adapted to a SOIC 14/16-pin footprint. Each adapter option has a corresponding letter on the back of the PCB to help better identify them. [Table 3-1](#) shows each corresponding board label, package designator, TI package designator, and pin count.

**Table 3-1. Device Recommendations**

Board Labeled on the Back	Package Designator	TI Package Designator	Pin Count
A	WQFN	RTE	16
B	X2QFN	RUG	10
C	SOT-23	DYY	14
D	X2QFN	RUC	14
E	WQFN	RTE	16
F	WQFN	RTE	16
G	WQFN	RUM	16
H	WSON	DSG	8
I	SOT-23	DCN/DDF	8
J	X2QFN	RUG	10

#### 3.1 A: WQFN (RTE) Shutdown

As shown in [Figure 3-1](#), a WQFN (RTE) shutdown device can be adapted to a quad-channel SOIC footprint.



**Figure 3-1. Quad SOIC to WQFN (RTE) Shutdown**

### 3.2 B: 2 × X2QFN (RUG) Shutdown

As shown in [Figure 3-2](#), two X2QFN (RUG) devices with shutdown can be adapted to a quad-channel SOIC footprint.

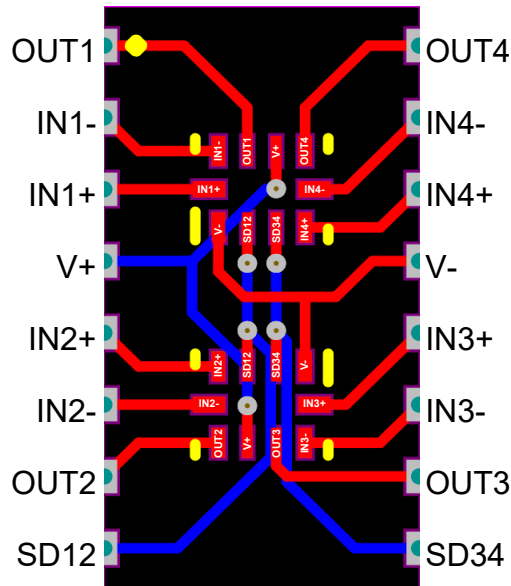


Figure 3-2. Quad SOIC to 2 × X2QFN (RUG) Shutdown

### 3.3 C: SOT-23-THN (DYY)

As shown in [Figure 3-3](#), a SOT-23-THN (DYY) device can be adapted to a quad-channel SOIC footprint.

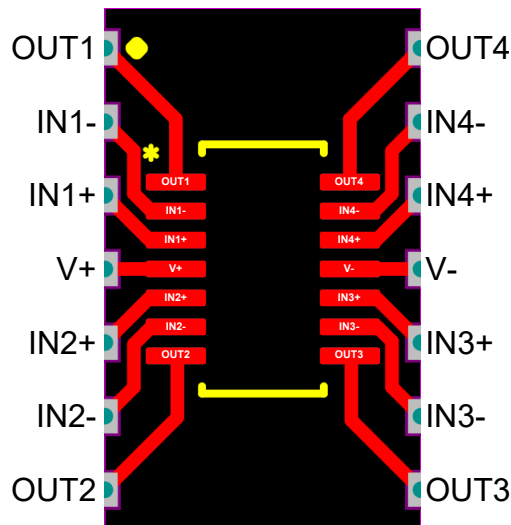


Figure 3-3. Quad SOIC to SOT-23-THN (DYY)

### 3.4 D: X2QFN (RUC)

As shown in [Figure 3-4](#), a X2QFN (RUC) device can be adapted to a quad-channel SOIC footprint.

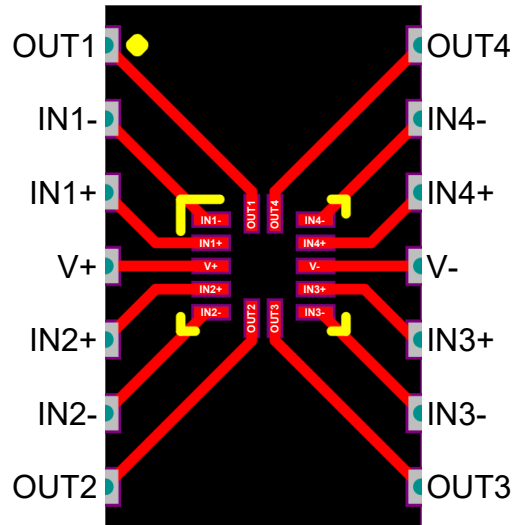


Figure 3-4. Quad SOIC to X2QFN (RUC)

### 3.5 E: WQFN (RTE)

As shown in [Figure 3-5](#), a WQFN (RTE) device can be adapted to a quad-channel SOIC footprint.

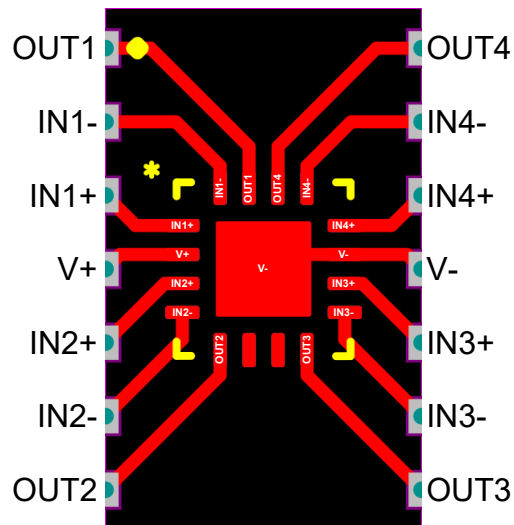


Figure 3-5. Quad SOIC to WQFN (RTE)

### 3.6 F: WQFN (RTE) Comparator

As shown in [Figure 3-6](#), a WQFN (RTE) comparator device can be adapted to a quad-channel SOIC footprint. The pin out, compared to the WQFN (RTE) in [Section 3.5](#), is more commonly seen in comparator devices.

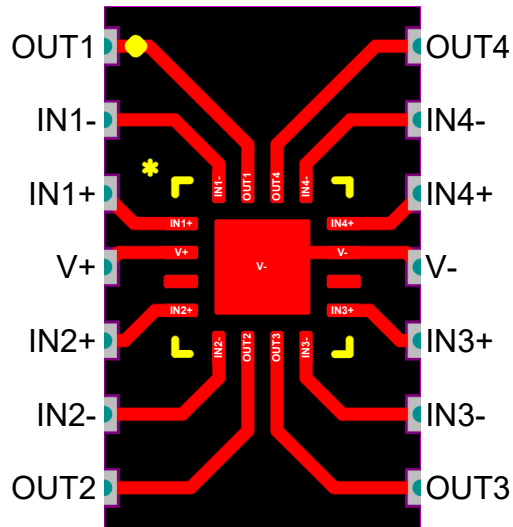


Figure 3-6. Quad SOIC to WQFN (RTE) Comparator

### 3.7 G: WQFN (RUM)

As shown in [Figure 3-7](#), a WQFN (RUM) device can be adapted to a quad-channel SOIC footprint.

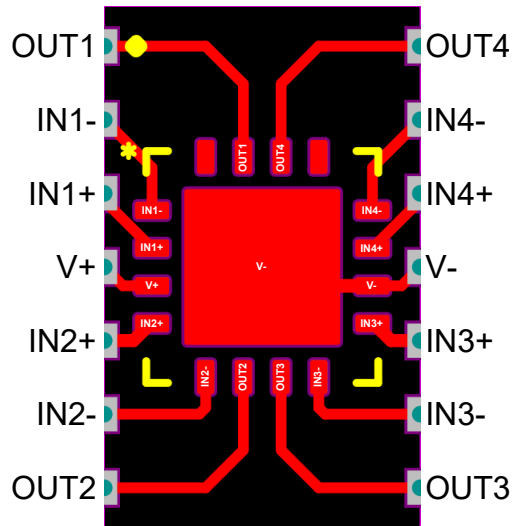


Figure 3-7. Quad SOIC to WQFN (RUM)

### 3.8 H: 2 × WSON (DSG)

As shown in [Figure 3-8](#), two dual-channel WSON (DSG) devices can be adapted to a quad-channel SOIC footprint.

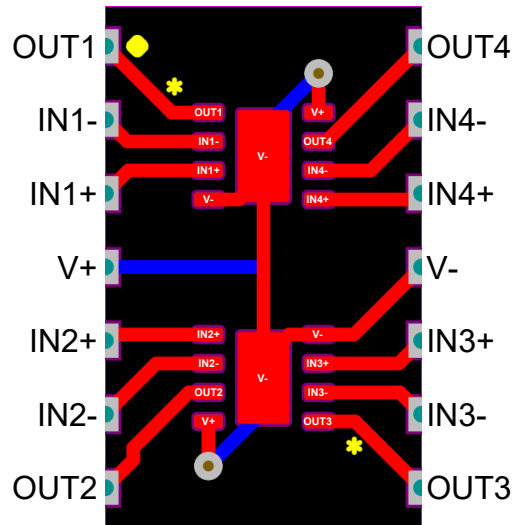


Figure 3-8. Quad SOIC to 2 × WSON (DSG)

### 3.9 I: 2 × SOT-23 (DCN/DDF)

As shown in [Figure 3-9](#), two dual-channel SOT-23 (DCN/DDF) devices can be adapted to a quad-channel SOIC footprint.

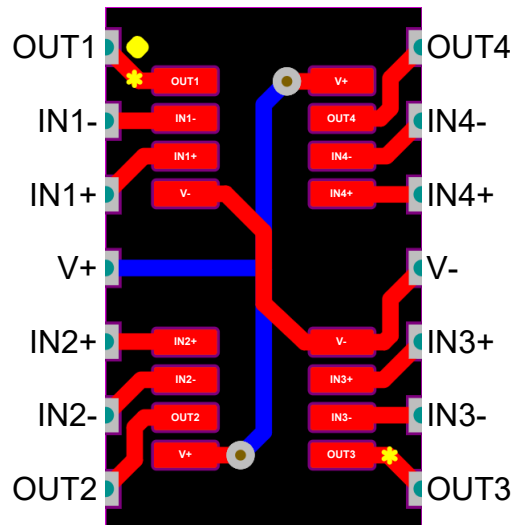


Figure 3-9. Quad SOIC to 2 × SOT-23 (DCN/DDF)



### 3.10 J: 2 × X2QFN (RUG)

As shown in [Figure 3-10](#), two dual-channel X2QFN (RUG) devices can be adapted to a quad-channel SOIC footprint.

This X2QFN adapter board has three additional pads for a 0402 resistor to allow the shutdown (SD) pins to be tied to either V+ or V-. These pads are provided since many op amps require an external pull-up or pull-down resistor to bring the op amp out of shutdown.

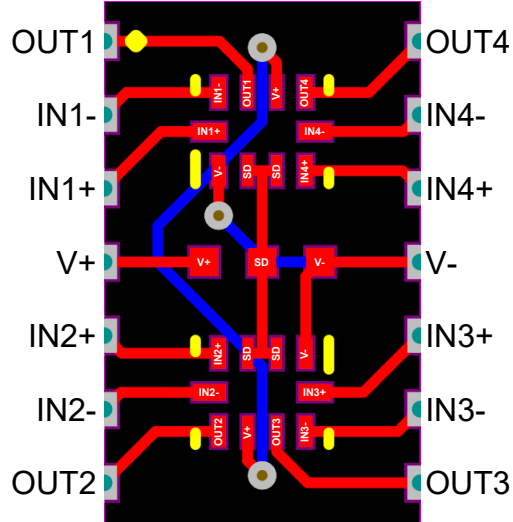


Figure 3-10. Quad SOIC to 2 × X2QFN (RUG)

## 4 Layout

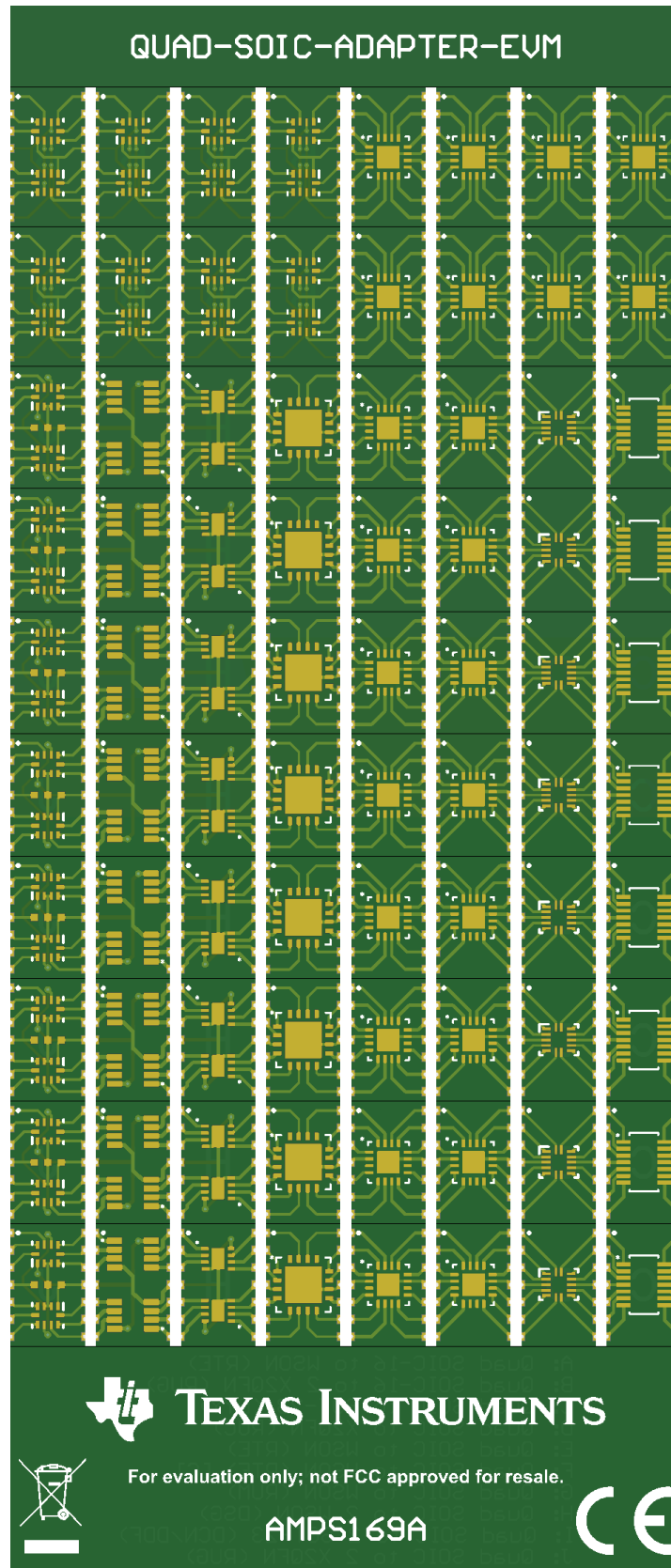


Figure 4-1. PCB Top Layer



**Figure 4-2. PCB Bottom Layer**

## 5 Bill of Materials

**Table 5-1. Bill of Materials**

Designator	Quantity	Description	Part Number
PCB	1	Printed-Circuit Board	QUAD-SOIC-ADAPTER-EVM

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