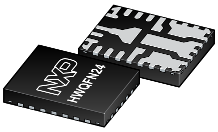
SOT2090-1

H-FC-PQFN24, thermal enhanced - flip chip - plastic quad flat non-lead, 24 terminals, 0.5 mm pitch, 3.5 mm x 4.5 mm x 0.68 mm body

11 July 2025

Package information



1 Package summary

Terminal position code	Q (quad)
Package type descriptive code	H-FC-PQFN24
Package style descriptive code	H-FC-PQFN (thermal enhanced - flip chip - plastic quad flat non-lead)
Package body material type	P (plastic)
Mounting method type	S (surface mount)
Manufacturer package code	98ASA02128D

Table 1. Package summary

Parameter	Min	Nom	Max	Unit
package length	3.4	3.5	3.6	mm
package width	4.4	4.5	4.6	mm
seated height	0.61	0.68	0.75	mm
package height	0.61	0.68	0.75	mm
nominal pitch	-	0.5	-	mm
actual quantity of termination	-	24	-	

2 Package outline

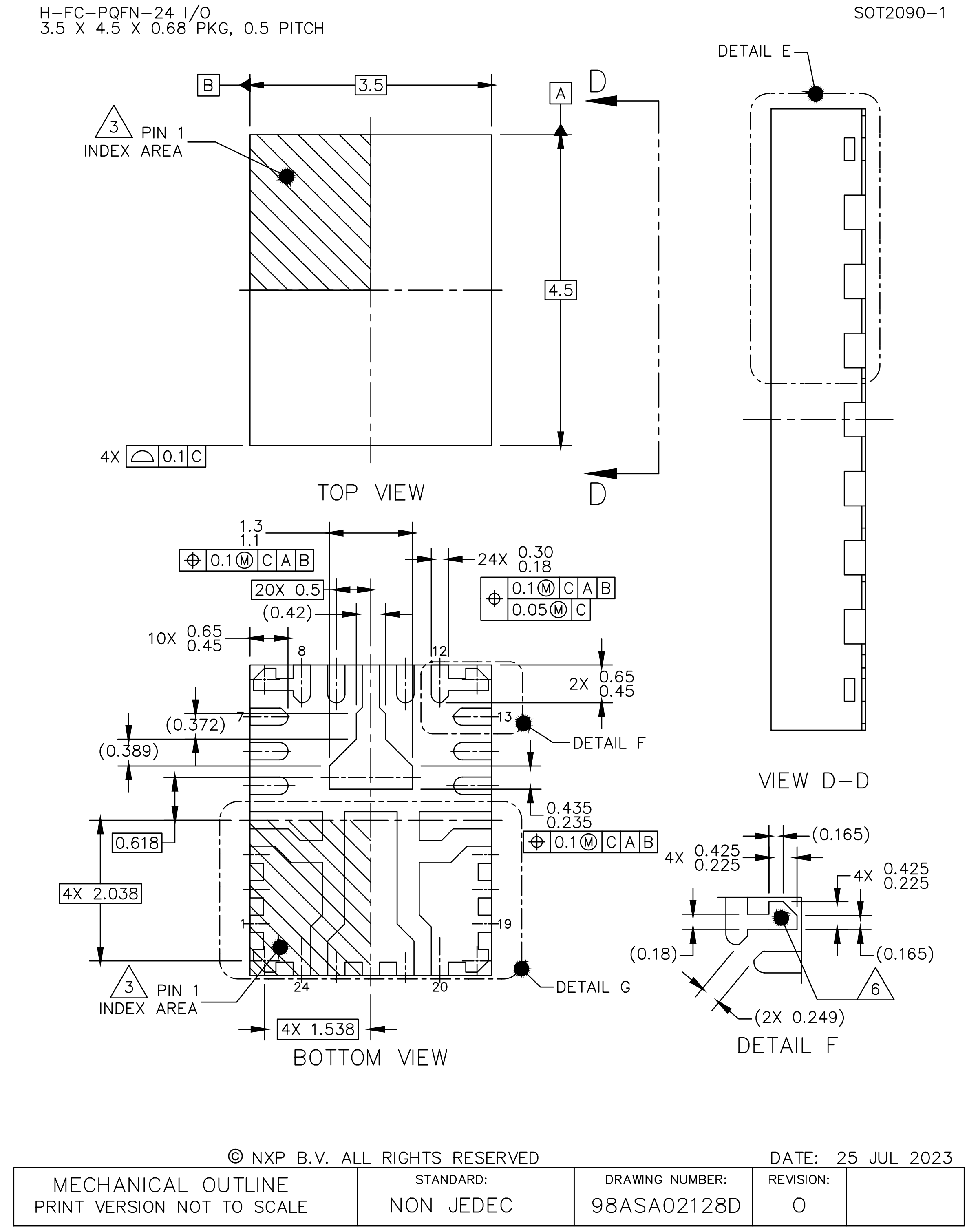


Figure 1. Package outline H-FC-PQFN24 (SOT2090-1)

H-FC-PQFN24, thermal enhanced - flip chip - plastic quad flat non-lead, 24 terminals, 0.5 mm pitch, 3.5 mm x 4.5 mm x 0.68 mm body

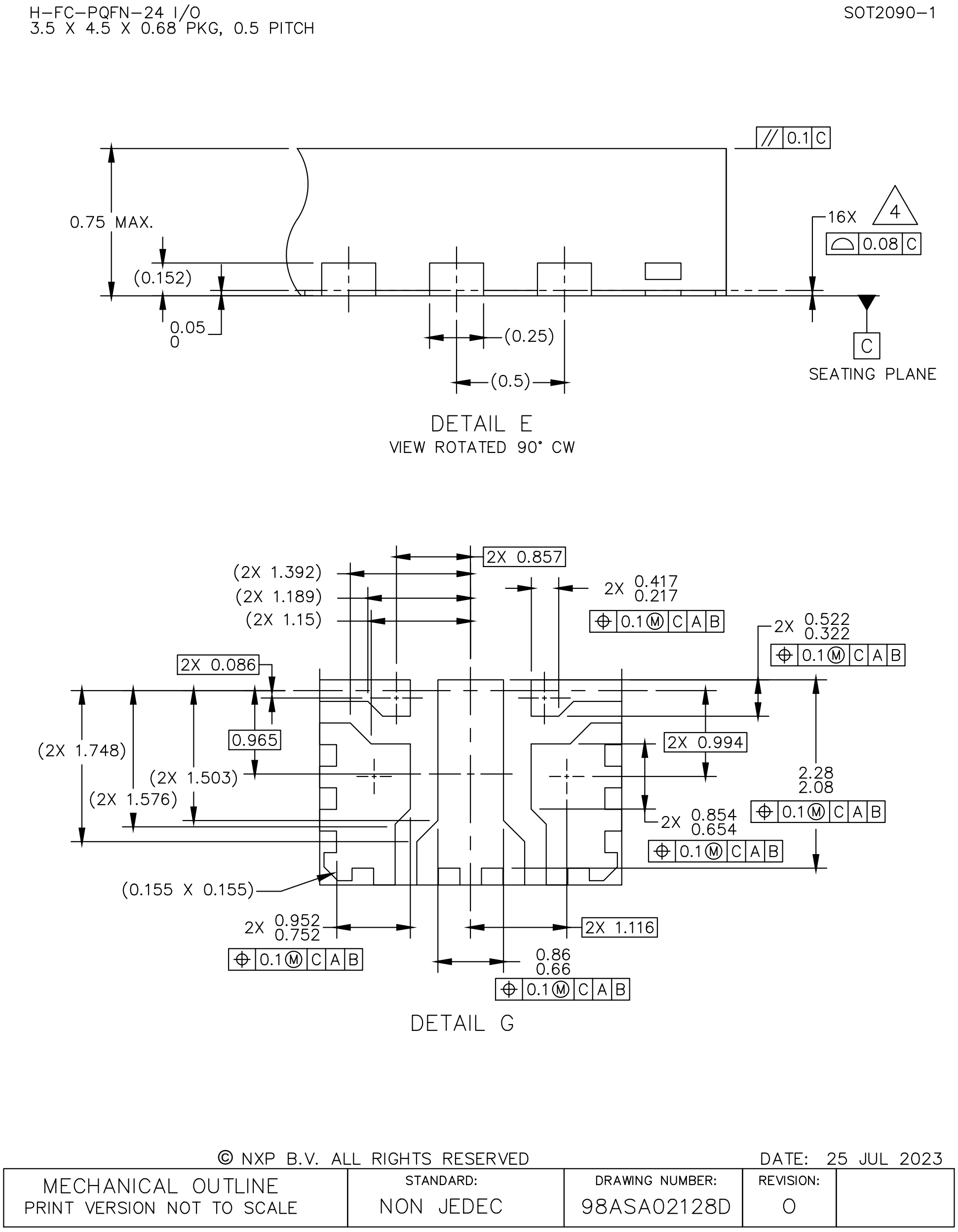
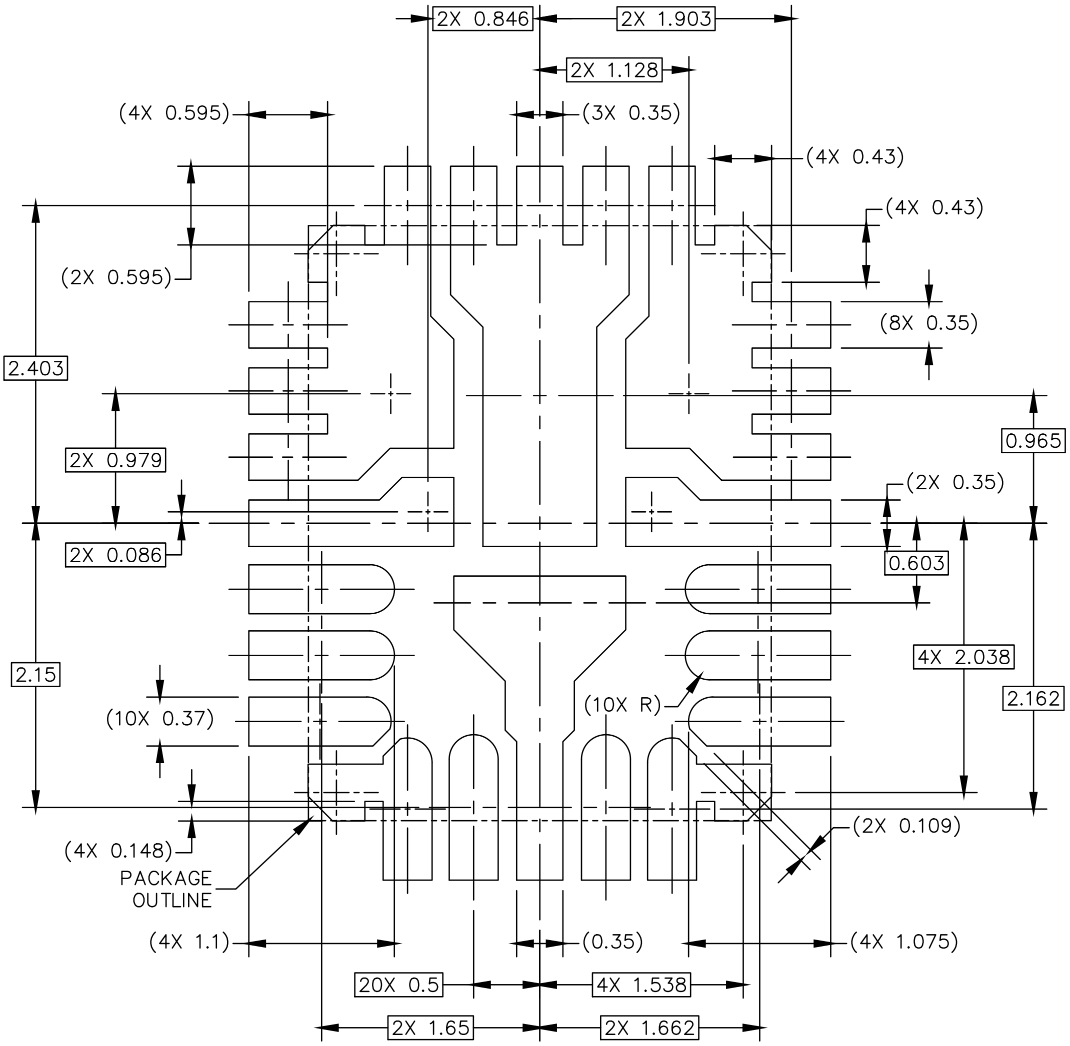


Figure 2. Package outline detail E and G of H-FC-PQFN24 (SOT2090-1)

3 Soldering

H–FC–PQFN–24 I/O
3.5 X 4.5 X 0.68 PKG, 0.5 PITCH

SOT2090–1



PCB DESIGN GUIDELINES – SOLDER MASK OPENING PATTERN

THIS SHEET SERVES ONLY AS A GUIDELINE TO HELP DEVELOP A USER SPECIFIC SOLUTION. DEVELOPMENT EFFORT WILL STILL BE REQUIRED BY END USERS TO OPTIMIZE PCB MOUNTING PROCESSES AND BOARD DESIGN IN ORDER TO MEET INDIVIDUAL/SPECIFIC REQUIREMENTS.

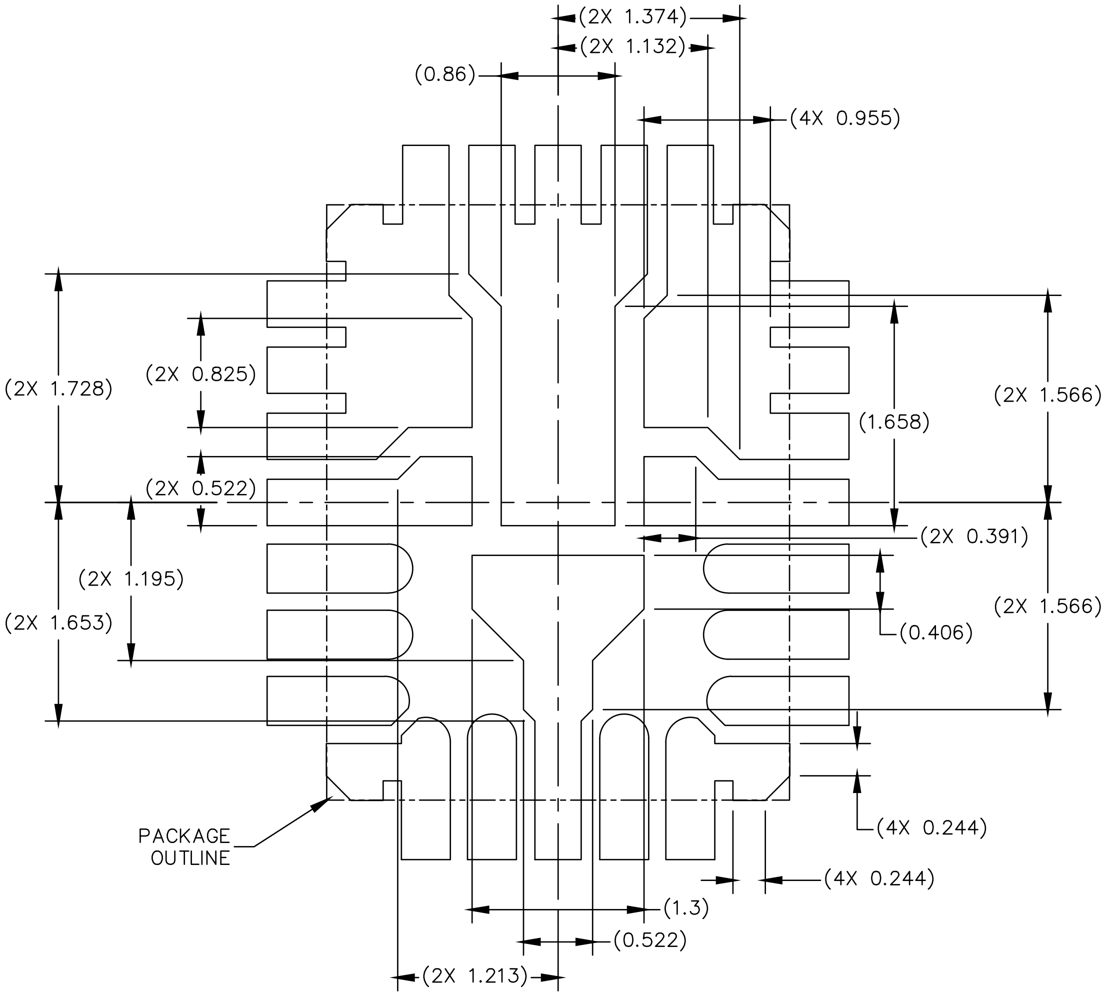
DATE: 25 JUL 2023

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02128D	REVISION: 0	

Figure 3. Reflow soldering footprint part1 H-FC-PQFN24 (SOT2090-1)

H–FC–PQFN–24 I/O
3.5 X 4.5 X 0.68 PKG, 0.5 PITCH

SOT2090–1



PCB DESIGN GUIDELINES – SOLDER MASK OPENING PATTERN

THIS SHEET SERVES ONLY AS A GUIDELINE TO HELP DEVELOP A USER SPECIFIC SOLUTION. DEVELOPMENT EFFORT WILL STILL BE REQUIRED BY END USERS TO OPTIMIZE PCB MOUNTING PROCESSES AND BOARD DESIGN IN ORDER TO MEET INDIVIDUAL/SPECIFIC REQUIREMENTS.

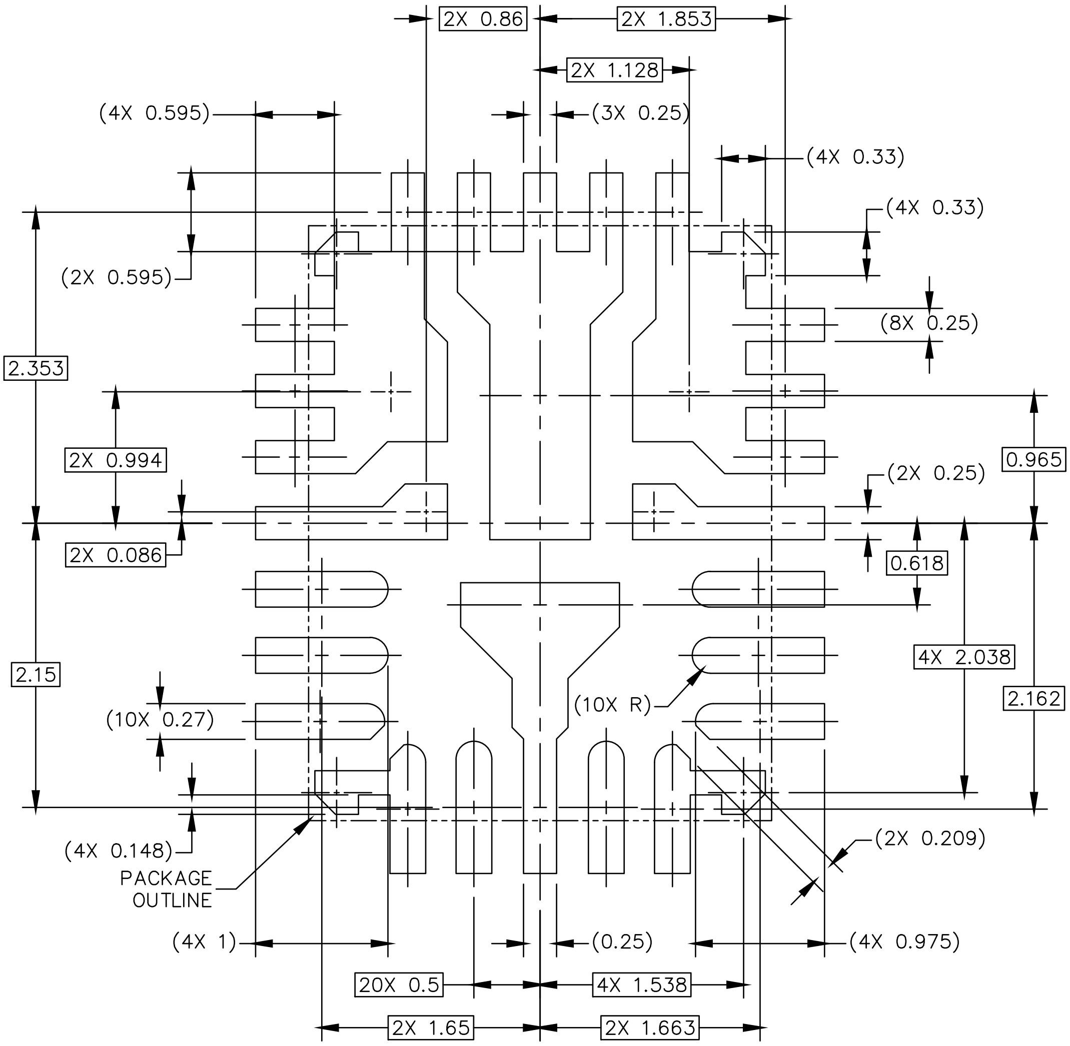
DATE: 25 JUL 2023

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02128D	REVISION: 0	

Figure 4. Reflow soldering footprint part2 H-FC-PQFN24 (SOT2090-1)

H–FC–PQFN–24 I/O
3.5 X 4.5 X 0.68 PKG, 0.5 PITCH

SOT2090–1



PCB DESIGN GUIDELINES – I/O PADS AND SOLDERABLE AREA

THIS SHEET SERVES ONLY AS A GUIDELINE TO HELP DEVELOP A USER SPECIFIC SOLUTION. DEVELOPMENT EFFORT WILL STILL BE REQUIRED BY END USERS TO OPTIMIZE PCB MOUNTING PROCESSES AND BOARD DESIGN IN ORDER TO MEET INDIVIDUAL/SPECIFIC REQUIREMENTS.

DATE: 25 JUL 2023

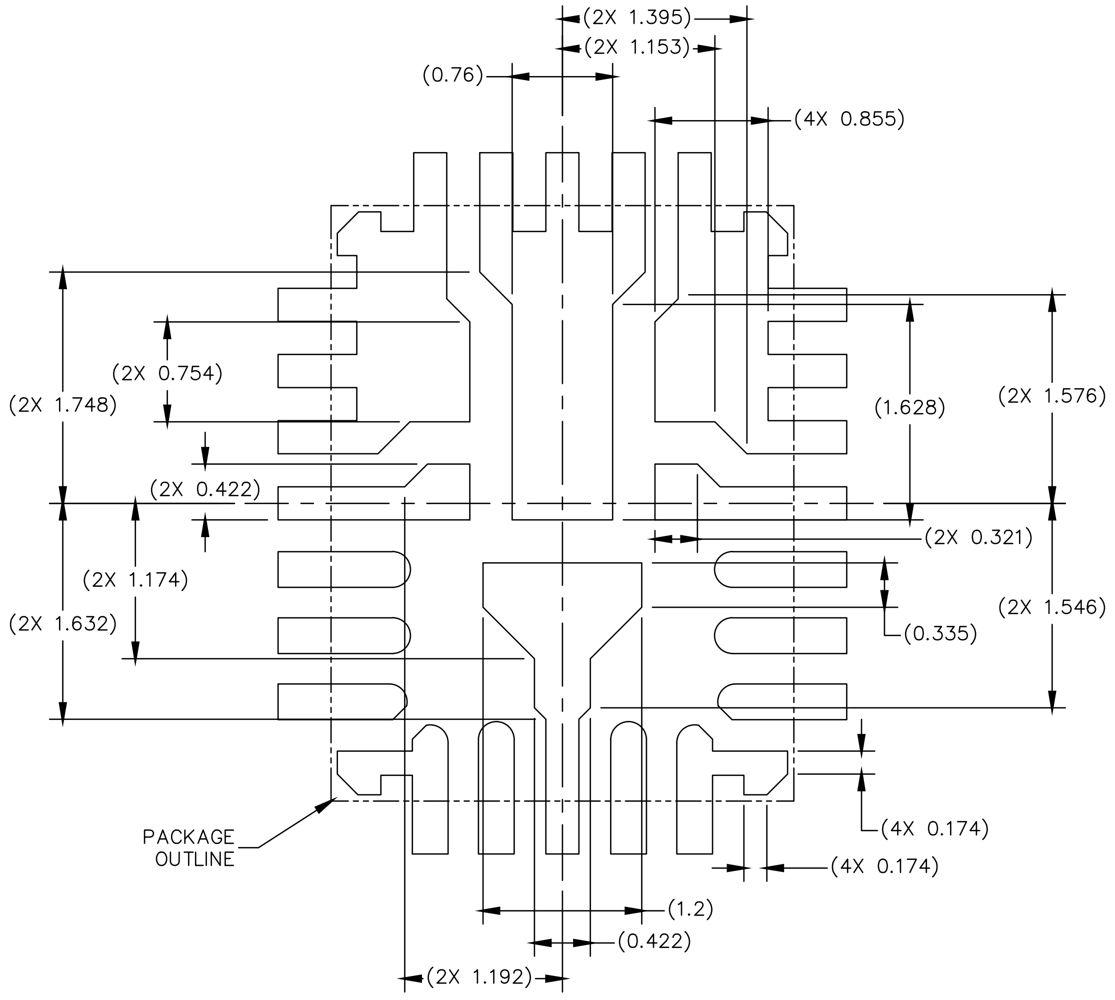
MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02128D	REVISION: O	

Figure 5. Reflow soldering footprint part3 H-FC-PQFN24 (SOT2090-1)

H-FC-PQFN24, thermal enhanced - flip chip - plastic quad flat non-lead, 24 terminals, 0.5 mm pitch, 3.5 mm x 4.5 mm x 0.68 mm body

H–FC–PQFN–24 I/O
3.5 X 4.5 X 0.68 PKG, 0.5 PITCH

SOT2090–1



PCB DESIGN GUIDELINES – I/O PADS AND SOLDERABLE AREA

THIS SHEET SERVES ONLY AS A GUIDELINE TO HELP DEVELOP A USER SPECIFIC SOLUTION. DEVELOPMENT EFFORT WILL STILL BE REQUIRED BY END USERS TO OPTIMIZE PCB MOUNTING PROCESSES AND BOARD DESIGN IN ORDER TO MEET INDIVIDUAL/SPECIFIC REQUIREMENTS.

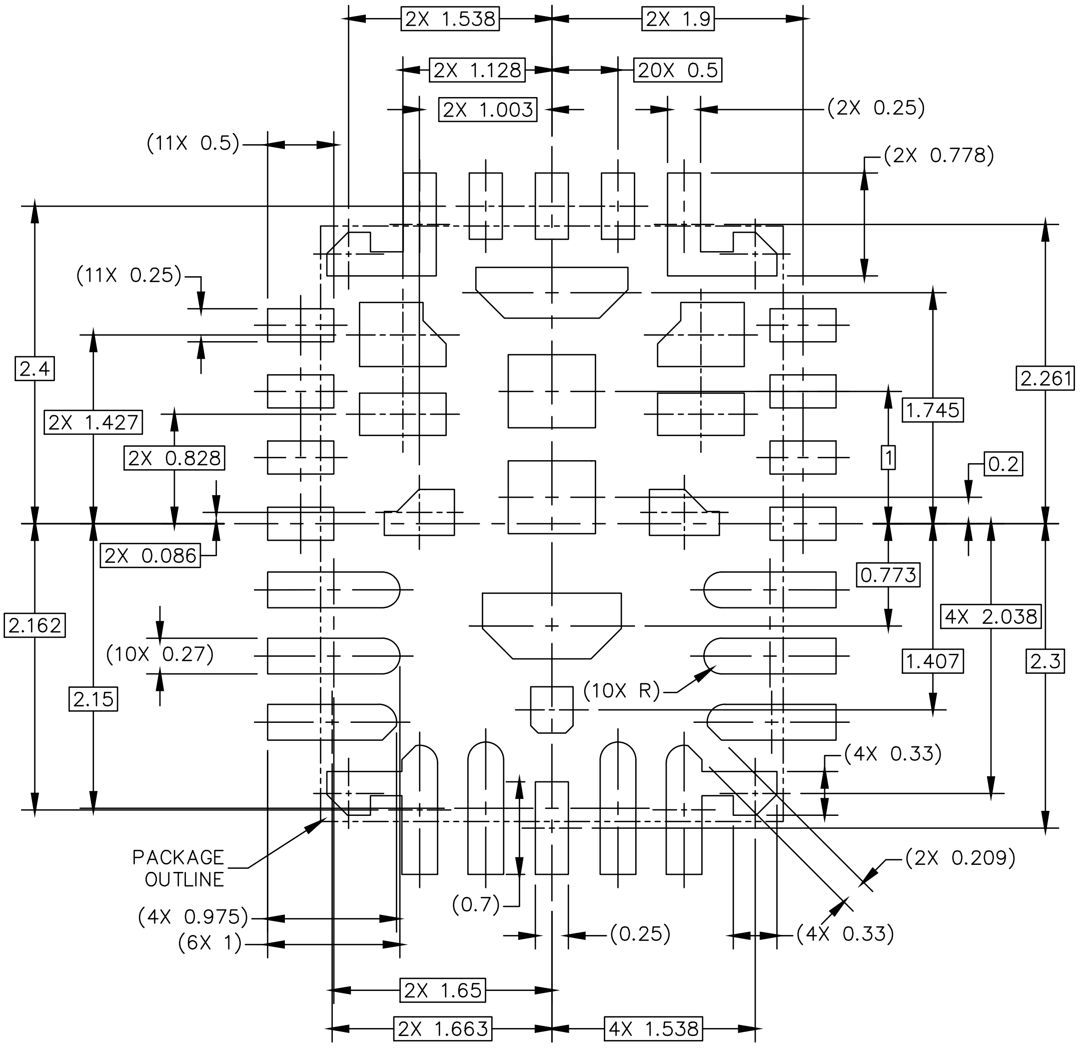
DATE: 25 JUL 2023

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02128D	REVISION: 0	

Figure 6. Reflow soldering footprint part4 H-FC-PQFN24 (SOT2090-1)

H-FC-PQFN-24 I/O
3.5 X 4.5 X 0.68 PKG, 0.5 PITCH

SOT2090-1



RECOMMENDED STENCIL THICKNESS 0.1

PCB DESIGN GUIDELINES – SOLDER PASTE STENCIL

THIS SHEET SERVES ONLY AS A GUIDELINE TO HELP DEVELOP A USER SPECIFIC SOLUTION. DEVELOPMENT EFFORT WILL STILL BE REQUIRED BY END USERS TO OPTIMIZE PCB MOUNTING PROCESSES AND BOARD DESIGN IN ORDER TO MEET INDIVIDUAL/SPECIFIC REQUIREMENTS.

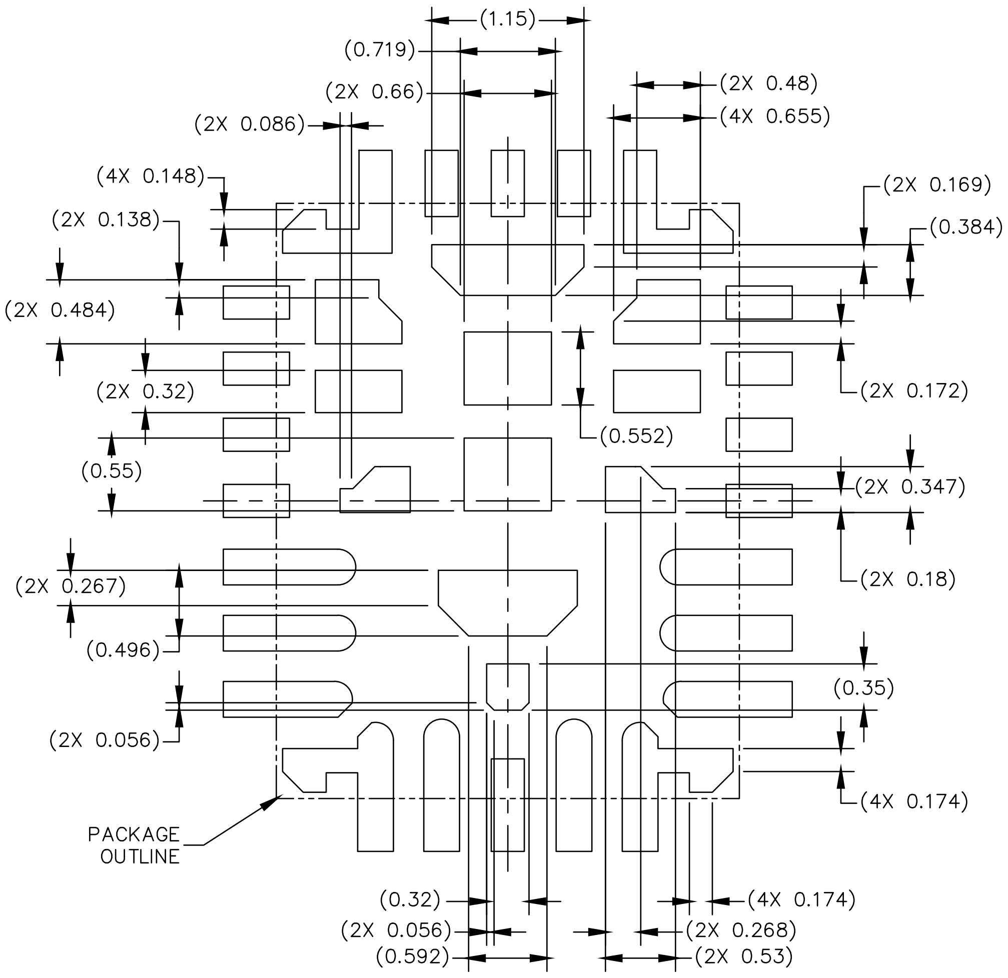
DATE: 25 JUL 2023

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02128D	REVISION: 0	

Figure 7. Reflow soldering footprint part5 H-FC-PQFN24 (SOT2090-1)

H-FC-PQFN-24 I/O
3.5 X 4.5 X 0.68 PKG, 0.5 PITCH

SOT2090-1



RECOMMENDED STENCIL THICKNESS 0.1

PCB DESIGN GUIDELINES – SOLDER PASTE STENCIL

THIS SHEET SERVES ONLY AS A GUIDELINE TO HELP DEVELOP A USER SPECIFIC SOLUTION. DEVELOPMENT EFFORT WILL STILL BE REQUIRED BY END USERS TO OPTIMIZE PCB MOUNTING PROCESSES AND BOARD DESIGN IN ORDER TO MEET INDIVIDUAL/SPECIFIC REQUIREMENTS.

DATE: 25 JUL 2023

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02128D	REVISION: 0	

Figure 8. Reflow soldering footprint part6 H-FC-PQFN24 (SOT2090-1)

H–FC–PQFN–24 I/O
3.5 X 4.5 X 0.68 PKG, 0.5 PITCH

SOT2090–1

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.

2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M–1994.

△3. PIN 1 FEATURE, SHAPE, SIZE AND LOCATION MAY VARY.

△4. COPLANARITY APPLIES TO LEADS AND DIE ATTACH PAD.

5. MIN. METAL GAP FOR LEAD TO EXPOSED PAD SHALL BE 0.2 MM.

△6. ANCHORING PADS.

DATE: 25 JUL 2023

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02128D	REVISION: 0	

Figure 9. Package outline note H-FC-PQFN24 (SOT2090-1)

4 Legal information

Disclaimers

Limited warranty and liability — Information in this document is believed to be accurate and reliable. However, NXP Semiconductors does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. NXP Semiconductors takes no responsibility for the content in this document if provided by an information source outside of NXP Semiconductors.

In no event shall NXP Semiconductors be liable for any indirect, incidental, punitive, special or consequential damages (including - without limitation - lost profits, lost savings, business interruption, costs related to the removal or replacement of any products or rework charges) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Notwithstanding any damages that customer might incur for any reason whatsoever, NXP Semiconductors' aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the Terms and conditions of commercial sale of NXP Semiconductors.

Right to make changes — NXP Semiconductors reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

Contents