SOT2283-1

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

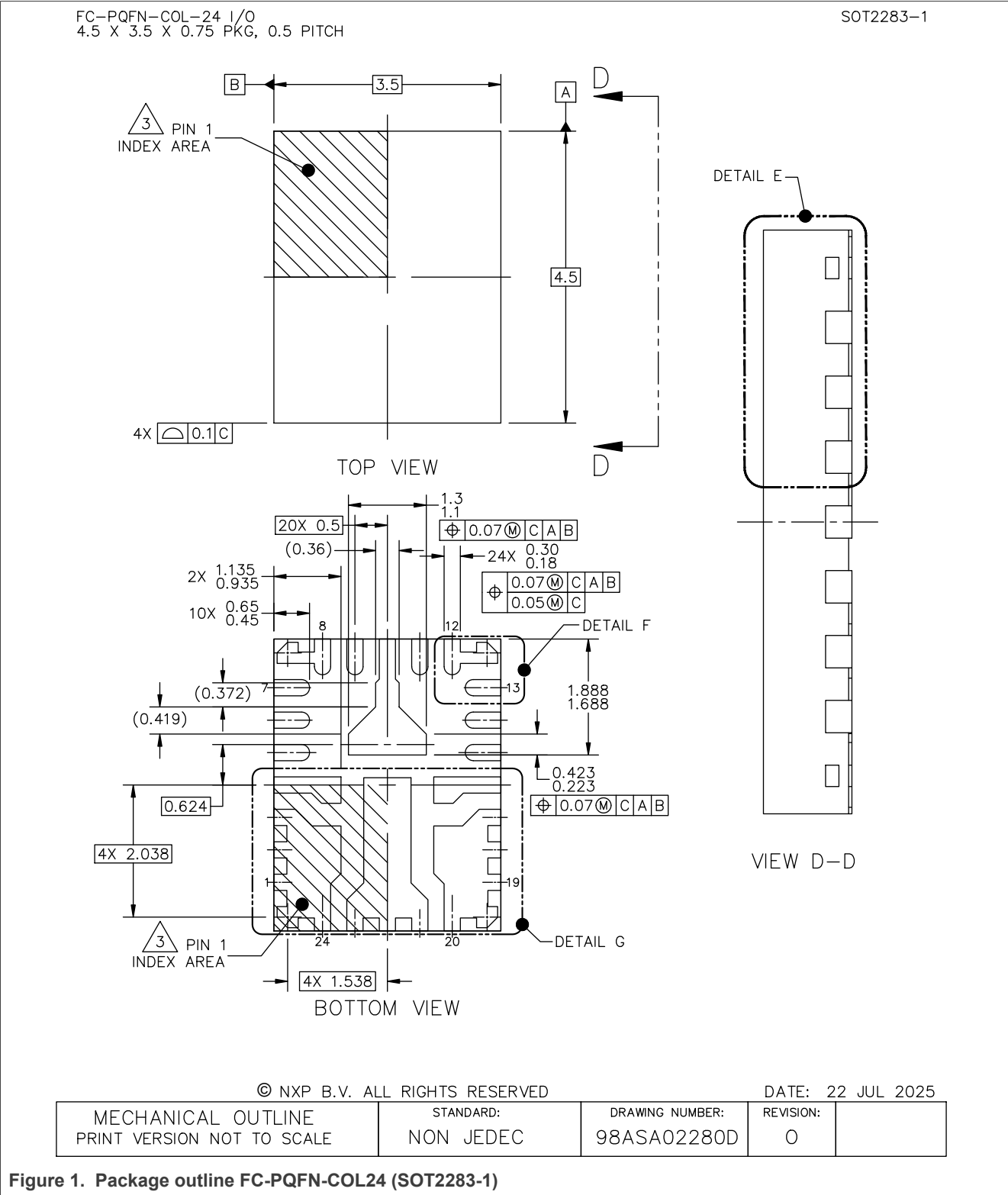# 1 Package summary

Terminal position code	Q (quad)
Package type descriptive code	FC-PQFN-COL24
Package style descriptive code	FC-PQFN-COL (flip chip - plastic quad flat non-lead - chip on lead)
Package body material type	P (plastic)
Mounting method type	S (surface mount)
Manufacturer package code	98ASA02280D

Table 1. Package summary

Parameter	Min	Nom	Max	Unit
package length	4.4	4.5	4.6	mm
package width	3.4	3.5	3.6	mm
seated height	0.7	0.75	0.8	mm
package height	0.7	0.75	0.8	mm
nominal pitch	-	0.5	-	mm
actual quantity of termination	-	24	-	

NXP Semiconductors

SOT2283-1

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

2 Package outline

Figure 1. Package outline FC-PQFN-COL24 (SOT2283-1)

SOT2283-1

All information provided in this document is subject to legal disclaimers.

© 2025 NXP B.V. All rights reserved.

Package information

1 September 2025

Document feedback

2 / 12

NXP Semiconductors SOT2283-1

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

FC-PQFN-COL-24 I/O
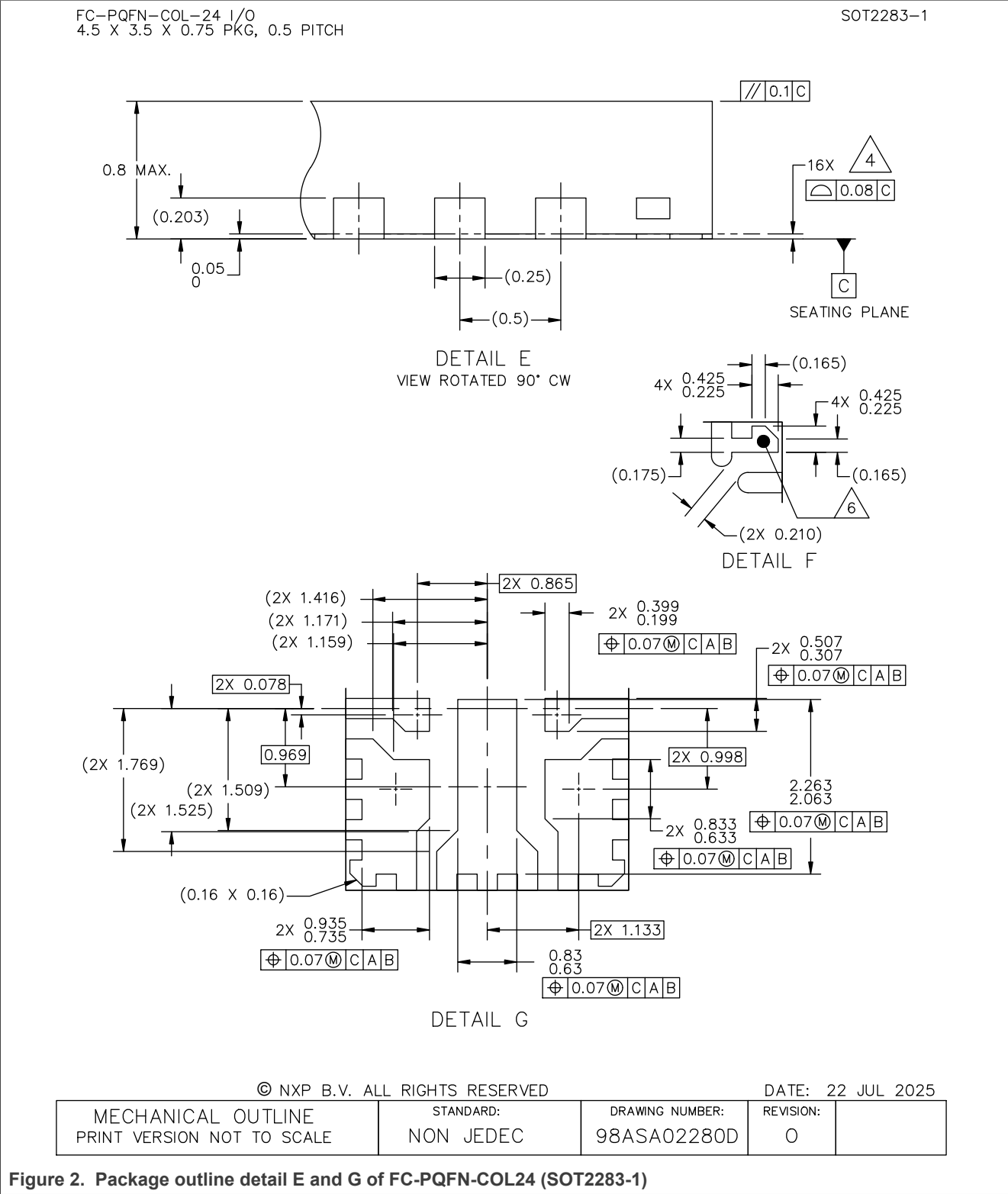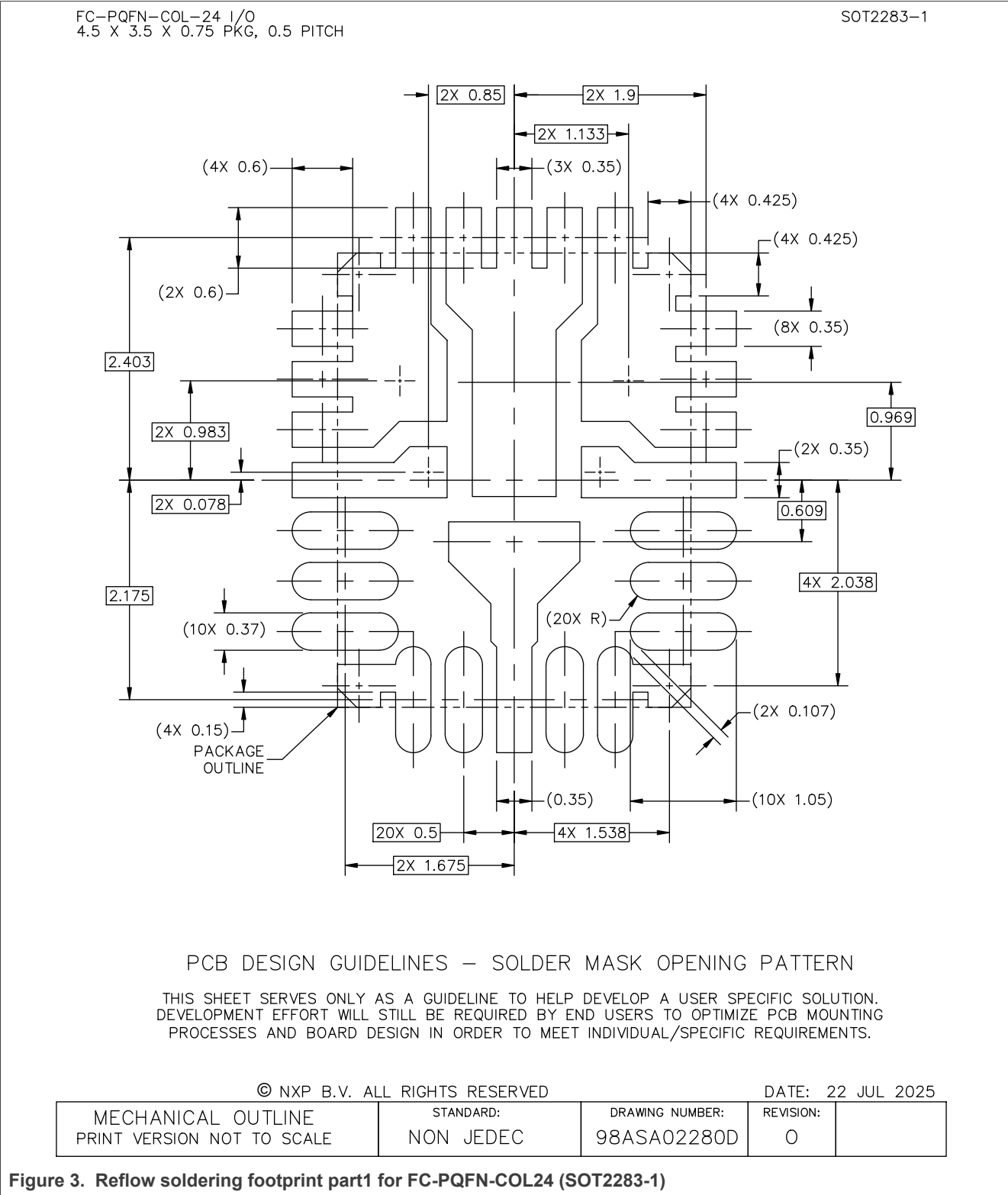4.5 X 3.5 X 0.75 PKG, 0.5 PITCH

SOT2283-1

// 0.1 C

16X △4

⌒ 0.08 C

0.8 MAX.

(0.203)

0.05
0

(0.25)

(0.5)

SEATING PLANE

C

DETAIL E
VIEW ROTATED 90° CW

(0.165)

4X 0.425 / 0.225

4X 0.425 / 0.225

(0.175)

(0.165)

△6

(2X 0.210)

DETAIL F

(2X 1.416)

(2X 1.171)

(2X 1.159)

2X 0.865

2X 0.399 / 0.199

⊕ 0.07 M C A B

2X 0.507 / 0.307

⊕ 0.07 M C A B

2X 0.078

(2X 1.769)

0.969

2X 0.998

(2X 1.509)

(2X 1.525)

2.263 / 2.063

2X 0.833 / 0.633

⊕ 0.07 M C A B

⊕ 0.07 M C A B

(0.16 X 0.16)

2X 0.935 / 0.735

⊕ 0.07 M C A B

2X 1.133

0.83 / 0.63

⊕ 0.07 M C A B

DETAIL G

DATE: 22 JUL 2025

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02280D	REVISION: O

Figure 2. Package outline detail E and G of FC-PQFN-COL24 (SOT2283-1)

SOT2283-1

All information provided in this document is subject to legal disclaimers.

© 2025 NXP B.V. All rights reserved.

Package information 1 September 2025 Document feedback

3 / 12

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body
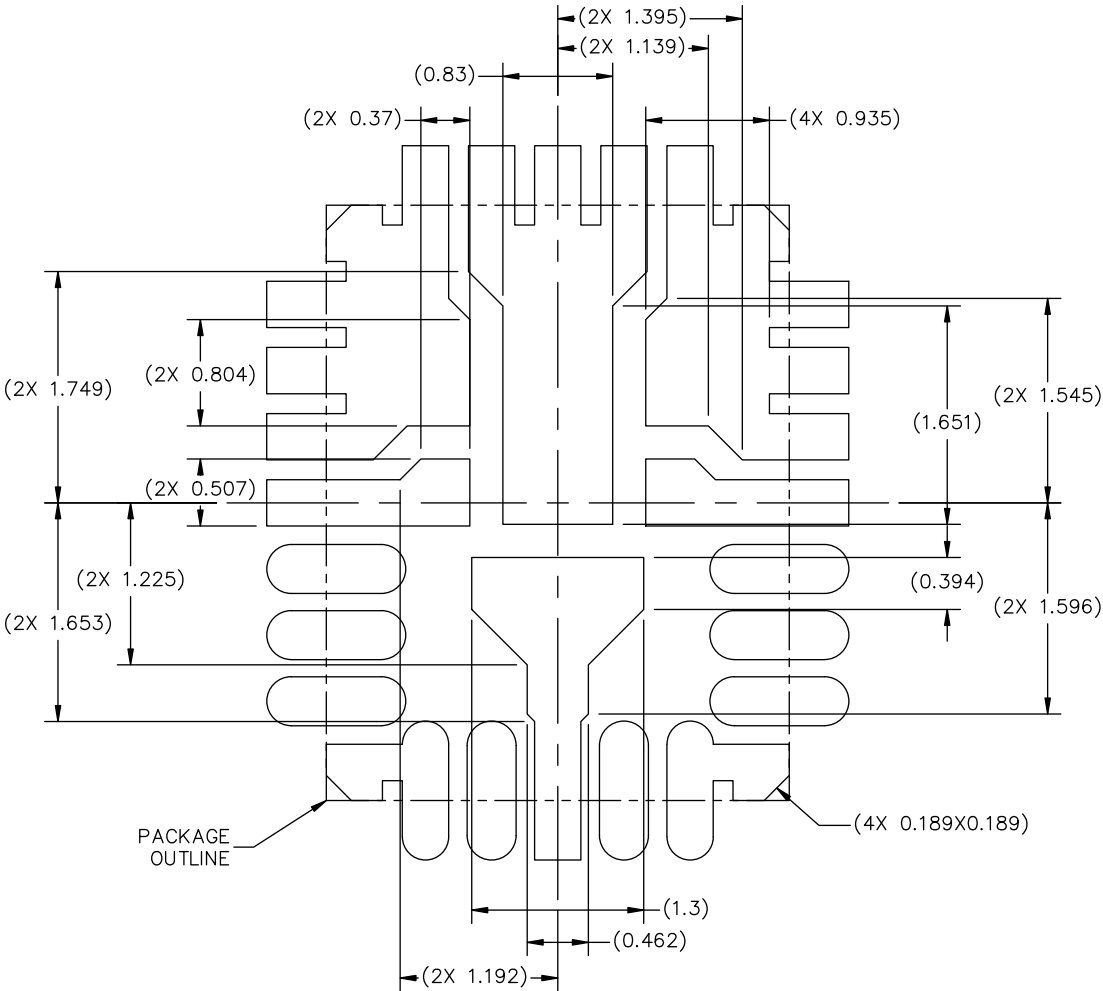
3 Soldering

FC-PQFN-COL-24 I/O
4.5 X 3.5 X 0.75 PKG, 0.5 PITCH

SOT2283-1

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.

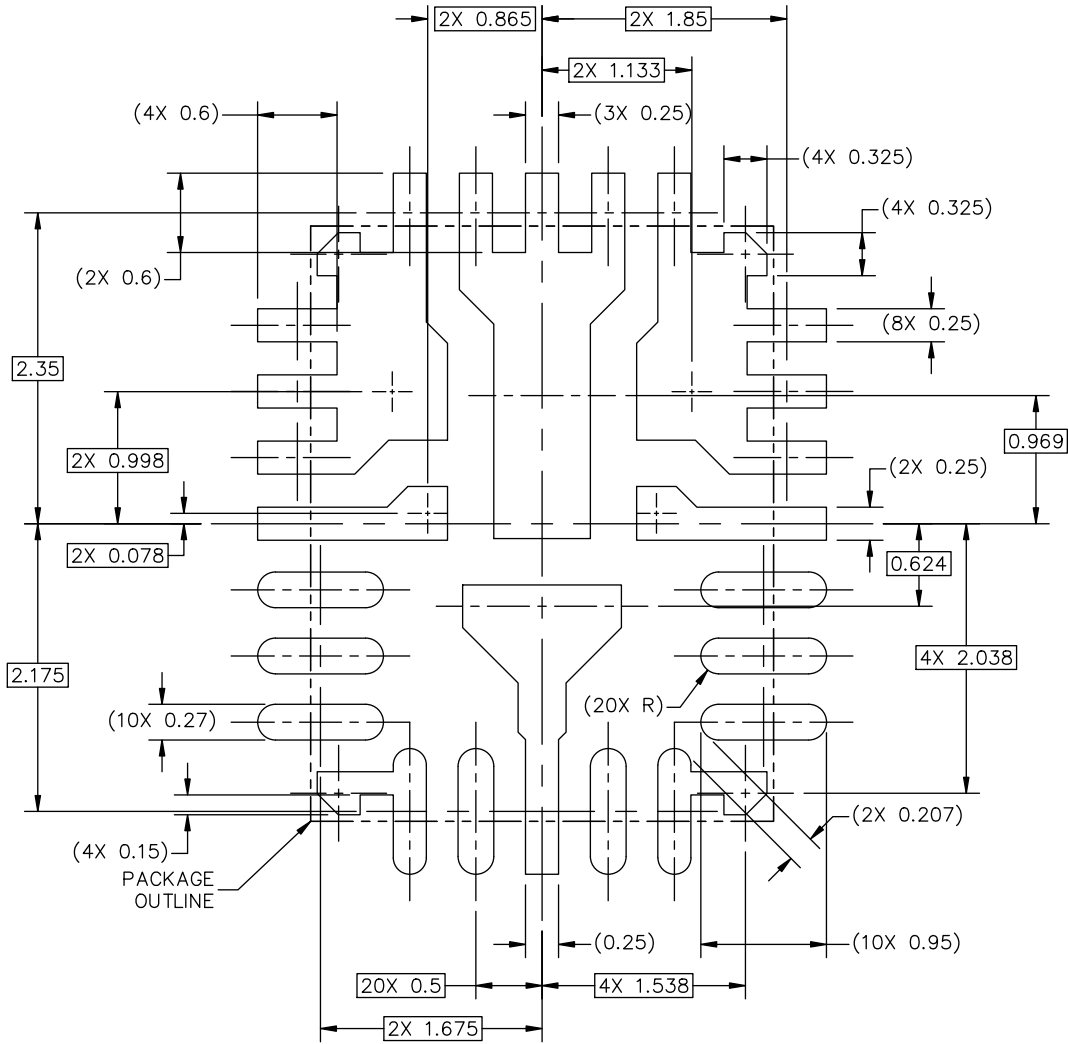© NXP B.V. ALL RIGHTS RESERVED

DATE: 22 JUL 2025

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02280D	REVISION: O

Figure 3. Reflow soldering footprint part1 for FC-PQFN-COL24 (SOT2283-1)

SOT2283-1

All information provided in this document is subject to legal disclaimers.

© 2025 NXP B.V. All rights reserved.

Package information

1 September 2025

Document feedback

4 / 12

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

FC-PQFN-COL-24 I/O
4.5 X 3.5 X 0.75 PKG, 0.5 PITCH

SOT2283-1

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.

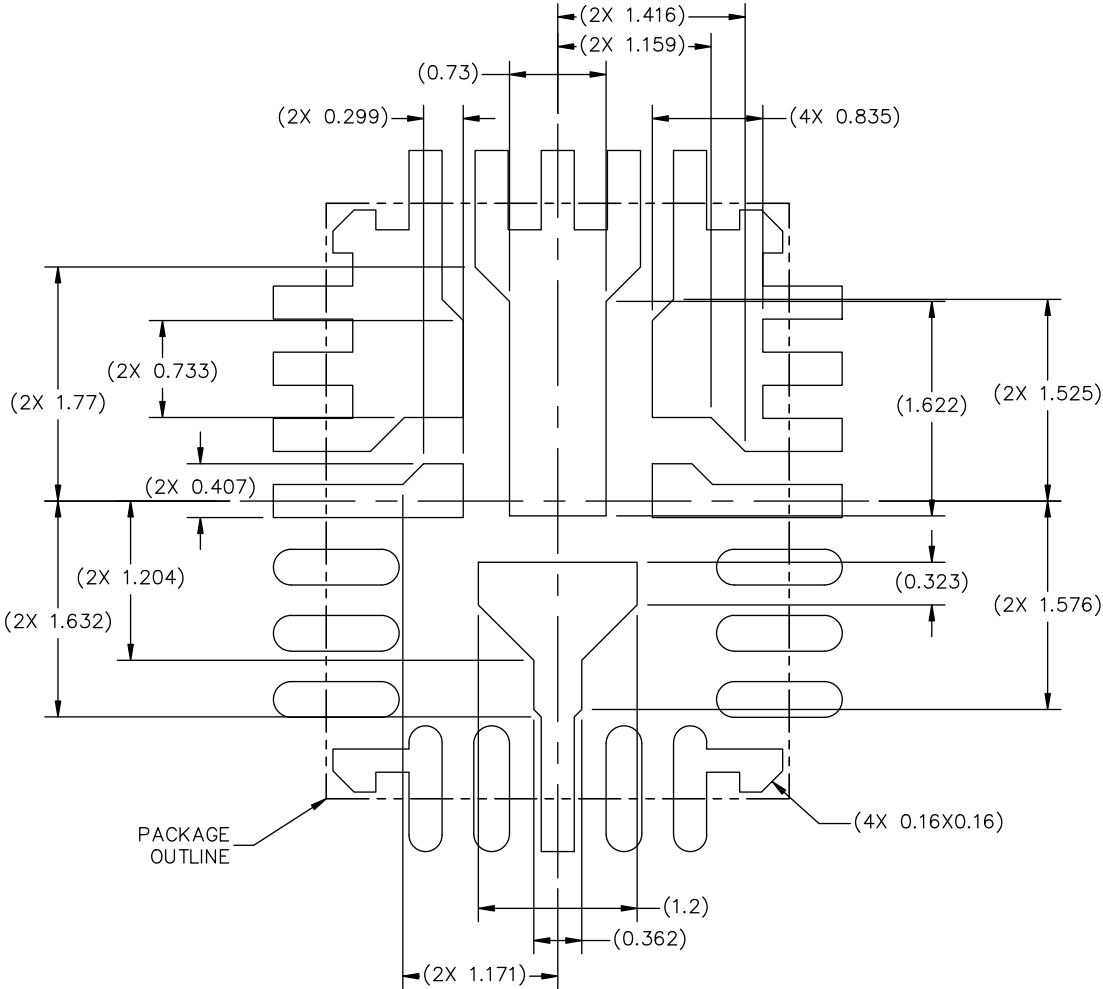© NXP B.V. ALL RIGHTS RESERVED   DATE: 22 JUL 2025

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02280D	REVISION: O	

Figure 4. Reflow soldering footprint part2 for FC-PQFN-COL24 (SOT2283-1)

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

FC-PQFN-COL-24 I/O
4.5 X 3.5 X 0.75 PKG, 0.5 PITCH

SOT2283-1

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.

© NXP B.V. ALL RIGHTS RESERVED

DATE: 22 JUL 2025

| MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE | STANDARD: NON JEDEC | DRAWING NUMBER: 98ASA02280D | REVISION: O |

Figure 5. Reflow soldering footprint part3 for FC-PQFN-COL24 (SOT2283-1)

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

FC-PQFN-COL-24 I/O
4.5 X 3.5 X 0.75 PKG, 0.5 PITCH

SOT2283-1

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.
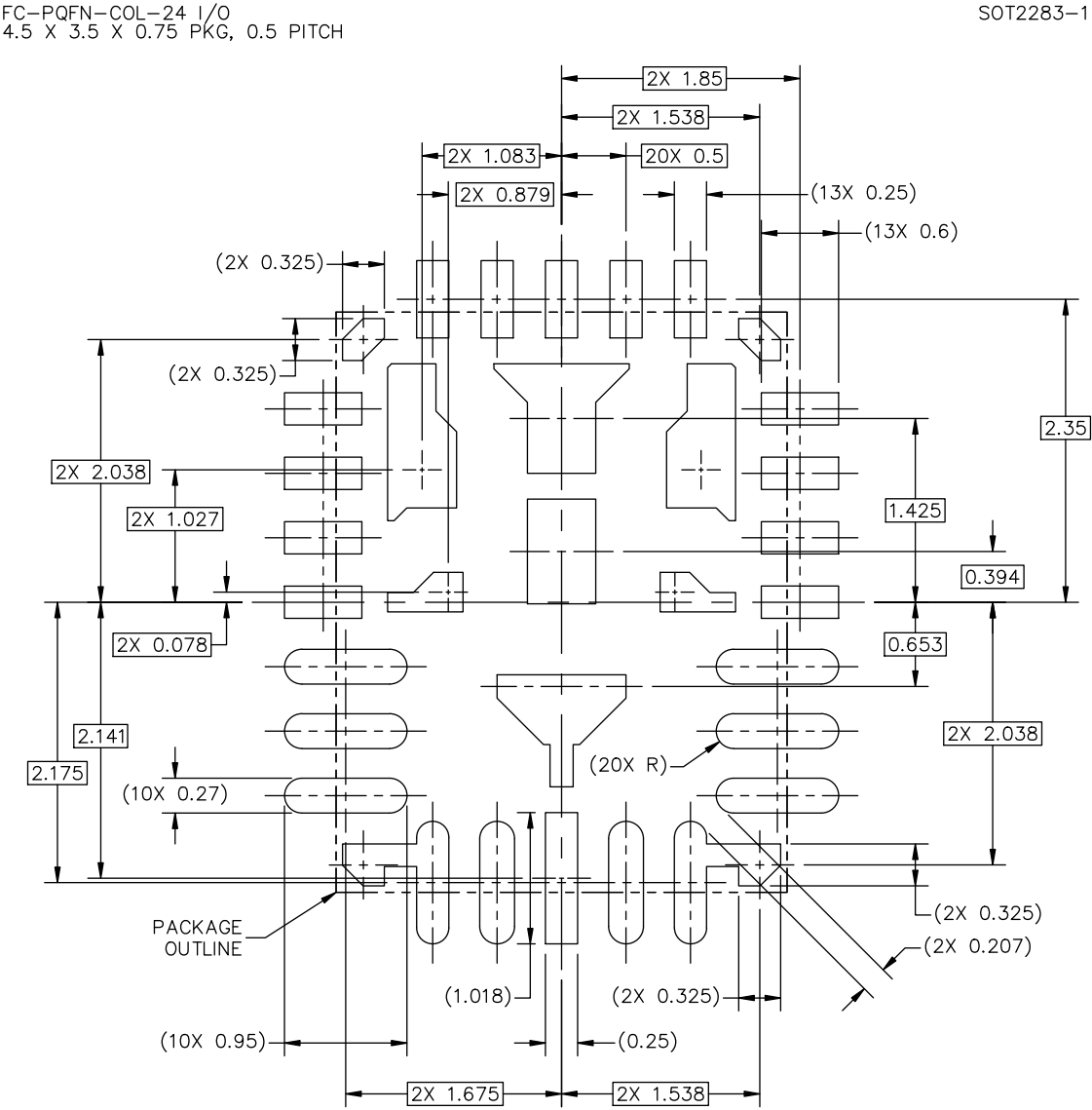
© NXP B.V. ALL RIGHTS RESERVED

DATE: 22 JUL 2025

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02280D	REVISION: O

Figure 6. Reflow soldering footprint part4 for FC-PQFN-COL24 (SOT2283-1)

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

FC-PQFN-COL-24 I/O
4.5 X 3.5 X 0.75 PKG, 0.5 PITCH

SOT2283-1

RECOMMENDED STENCIL THICKNESS 0.125

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.

© NXP B.V. ALL RIGHTS RESERVED   DATE: 22 JUL 2025

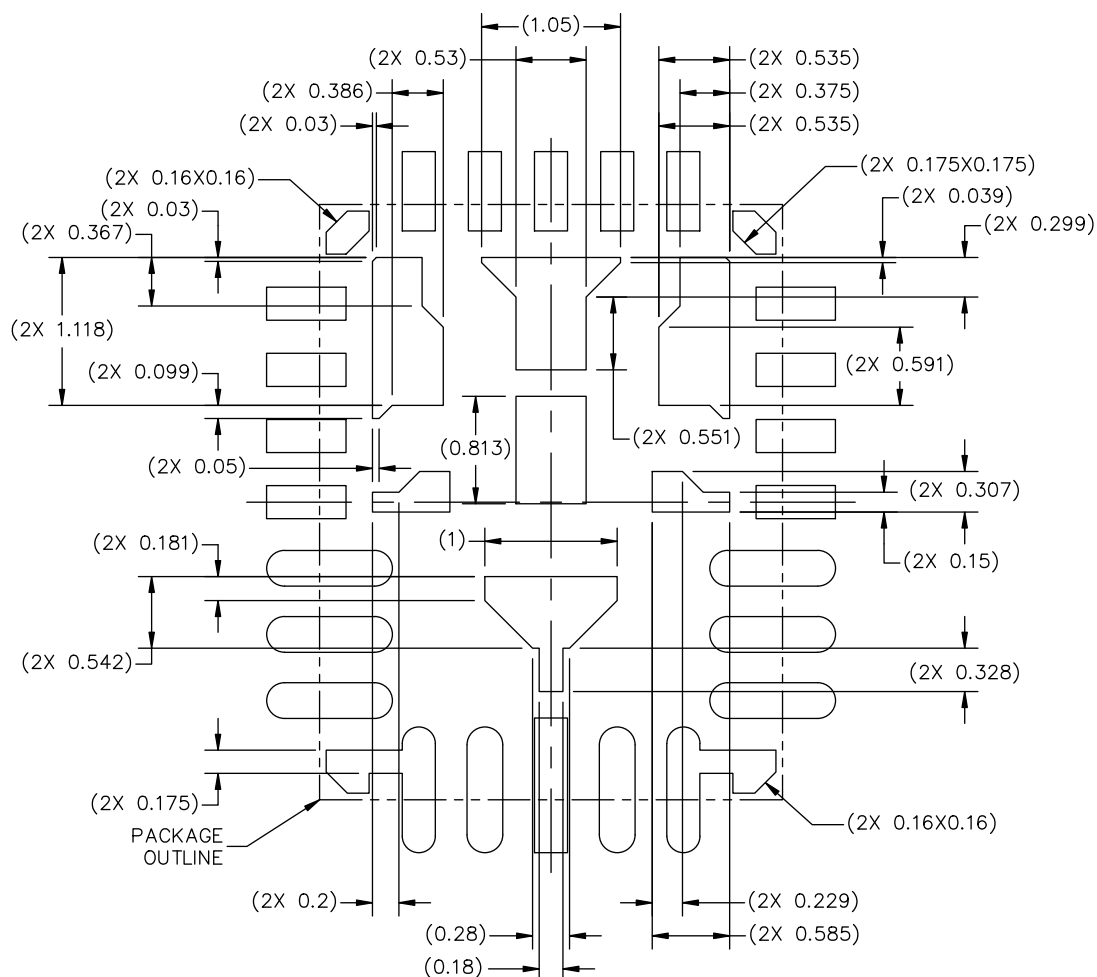| MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02280D	REVISION: O

Figure 7. Reflow soldering footprint part5 for FC-PQFN-COL24 (SOT2283-1)

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

FC-PQFN-COL-24 I/O
4.5 X 3.5 X 0.75 PKG, 0.5 PITCH

SOT2283-1

RECOMMENDED STENCIL THICKNESS 0.125

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.

© NXP B.V. ALL RIGHTS RESERVED   DATE: 22 JUL 2025

MECHANICAL OUTLINE PRINT VERSION NOT TO SCALE	STANDARD: NON JEDEC	DRAWING NUMBER: 98ASA02280D	REVISION: O

Figure 8. Reflow soldering footprint part6 for FC-PQFN-COL24 (SOT2283-1)

SOT2283-1

All information provided in this document is subject to legal disclaimers.

© 2025 NXP B.V. All rights reserved.

Package information   **1 September 2025**   Document feedback

9 / 12

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

```
FC-PQFN-COL-24 I/O                                           SOT2283-1
4.5 X 3.5 X 0.75 PKG, 0.5 PITCH



        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.
```

© NXP B.V. ALL RIGHTS RESERVED   DATE: 22 JUL 2025

| MECHANICAL OUTLINE
PRINT VERSION NOT TO SCALE | STANDARD:
NON JEDEC | DRAWING NUMBER:
98ASA02280D | REVISION:
O | |

Figure 9. Package outline note FC-PQFN-COL24 (SOT2283-1)

NXP Semiconductors

SOT2283-1

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

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.

SOT2283-1

All information provided in this document is subject to legal disclaimers.

© 2025 NXP B.V. All rights reserved.

Package information

1 September 2025

Document feedback

11 / 12

NXP Semiconductors

SOT2283-1

FC-PQFN-COL24, flip chip - plastic quad flat non-lead - chip on lead, 24 terminals, 0.5 mm pitch, 4.5 mm x 3.5 mm x 0.75 mm body

Contents