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List of Figures and Tables

1. Overview

1-1. Device Summary

Table 1 Device Summary

Category	Battery Management IC
Product Name	BQ79616-Q1
Manufacturer	Texas Instruments
Package Type	TQFP-64 (with Heat Sink)
Package Marking	16CL4YW BQ79616 G4
Die Marking	第 2020 BQ79616B1
Die Size	4.68mm × 4.82mm = 22.46mm²
Process Type	BCD
Layers	Poly-Silicetal-MIM-TPR
Minimum Gate Length	0.2 um (平 [illegible])

1-2. Package

1Pin

Fig. 1-2-1 Package (Top View)

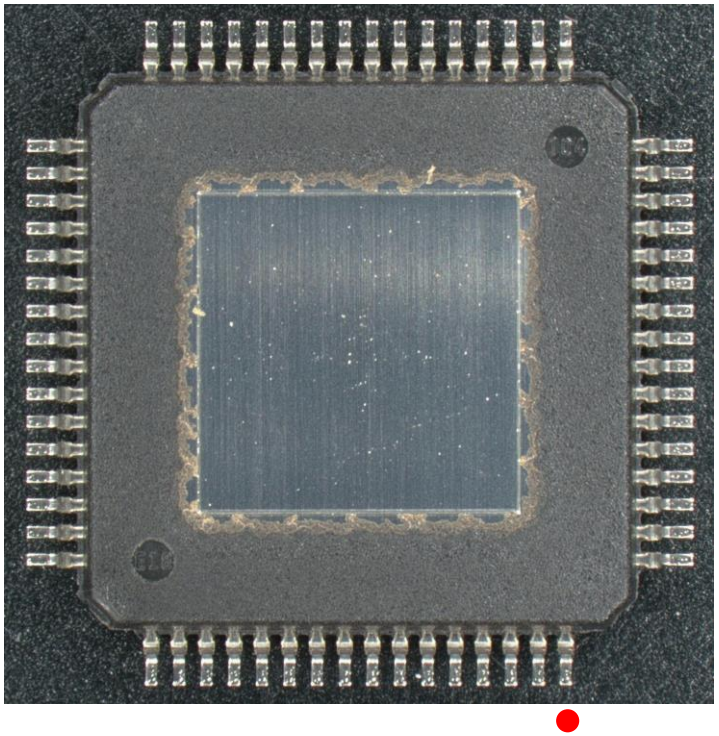


Fig. 1-2-2 Package (Bottom View)

1-3. Package X-Ray

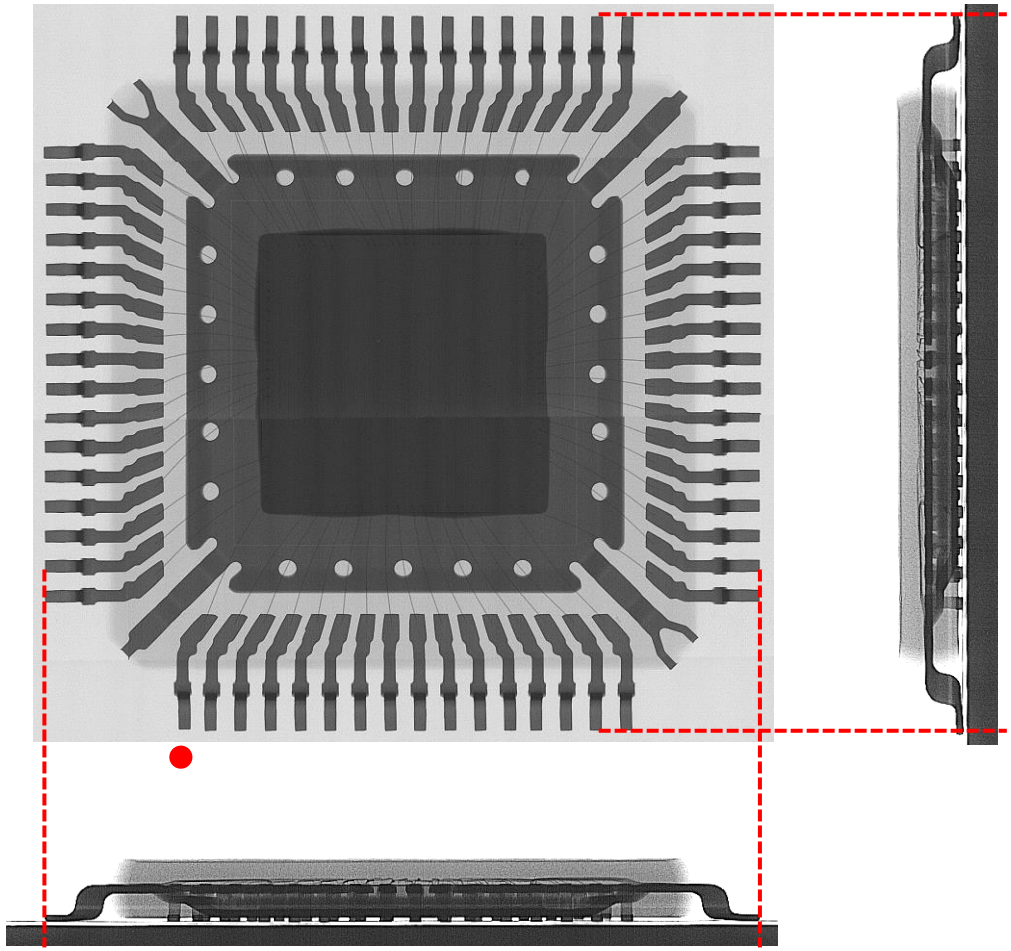


Fig. 1-3 Package X-Ray

1-4. Die Overview

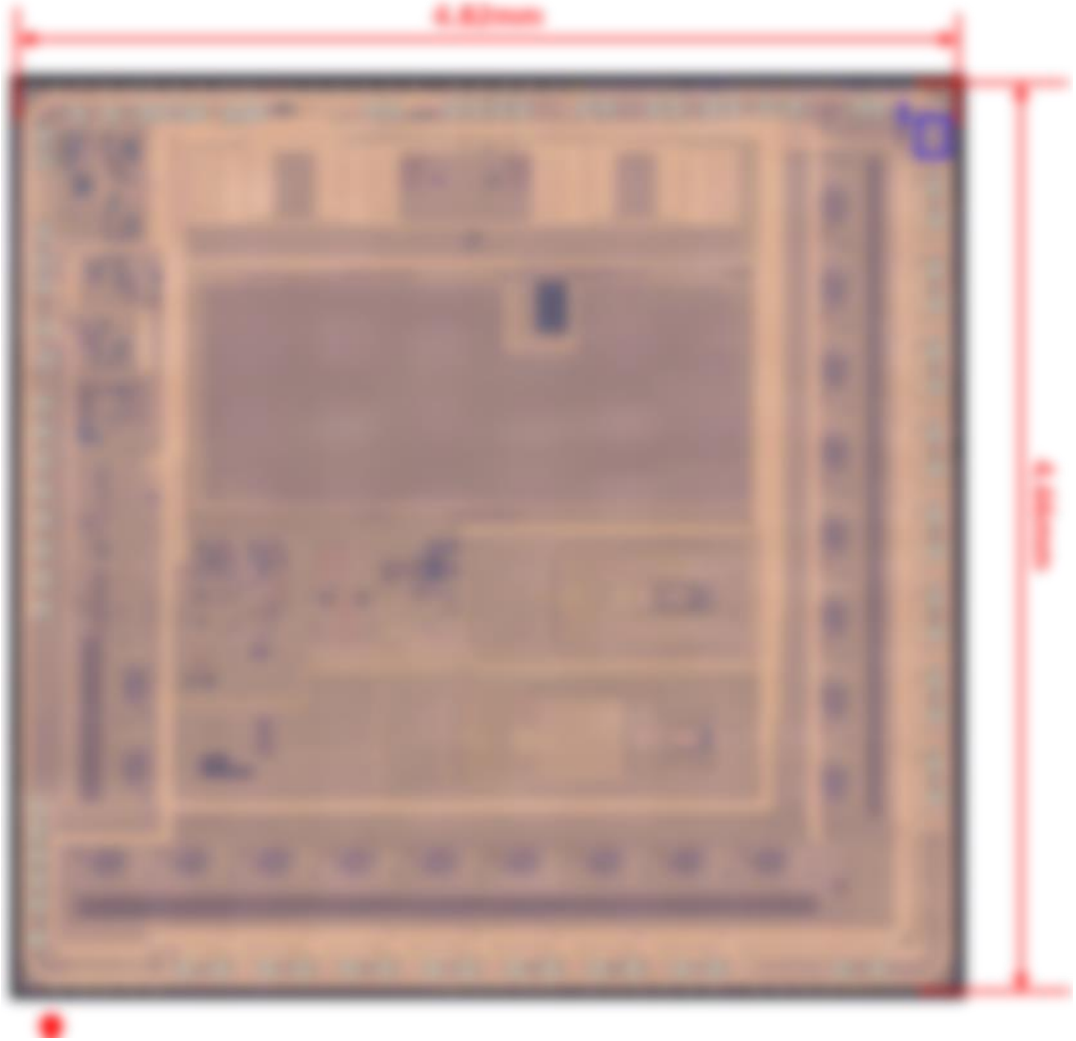


Fig. 1-4-1 Die Size (5th Metal Layer)

※Fig. 1-4-1よりCW方向に90度回転

Fig. 1-4-2 Die Marking

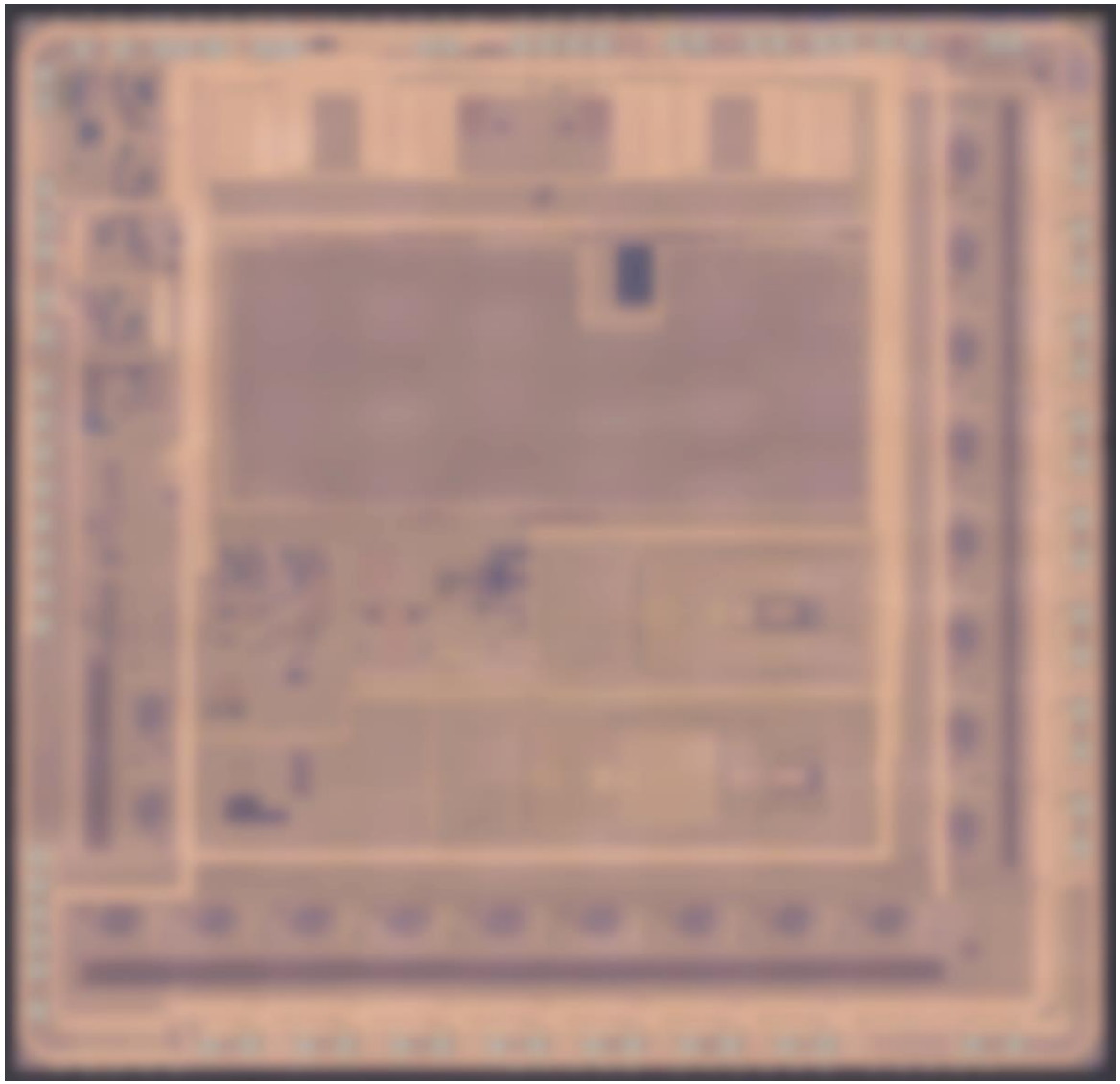


Fig. 1-4-3 Die Overview (5th Metal Layer)

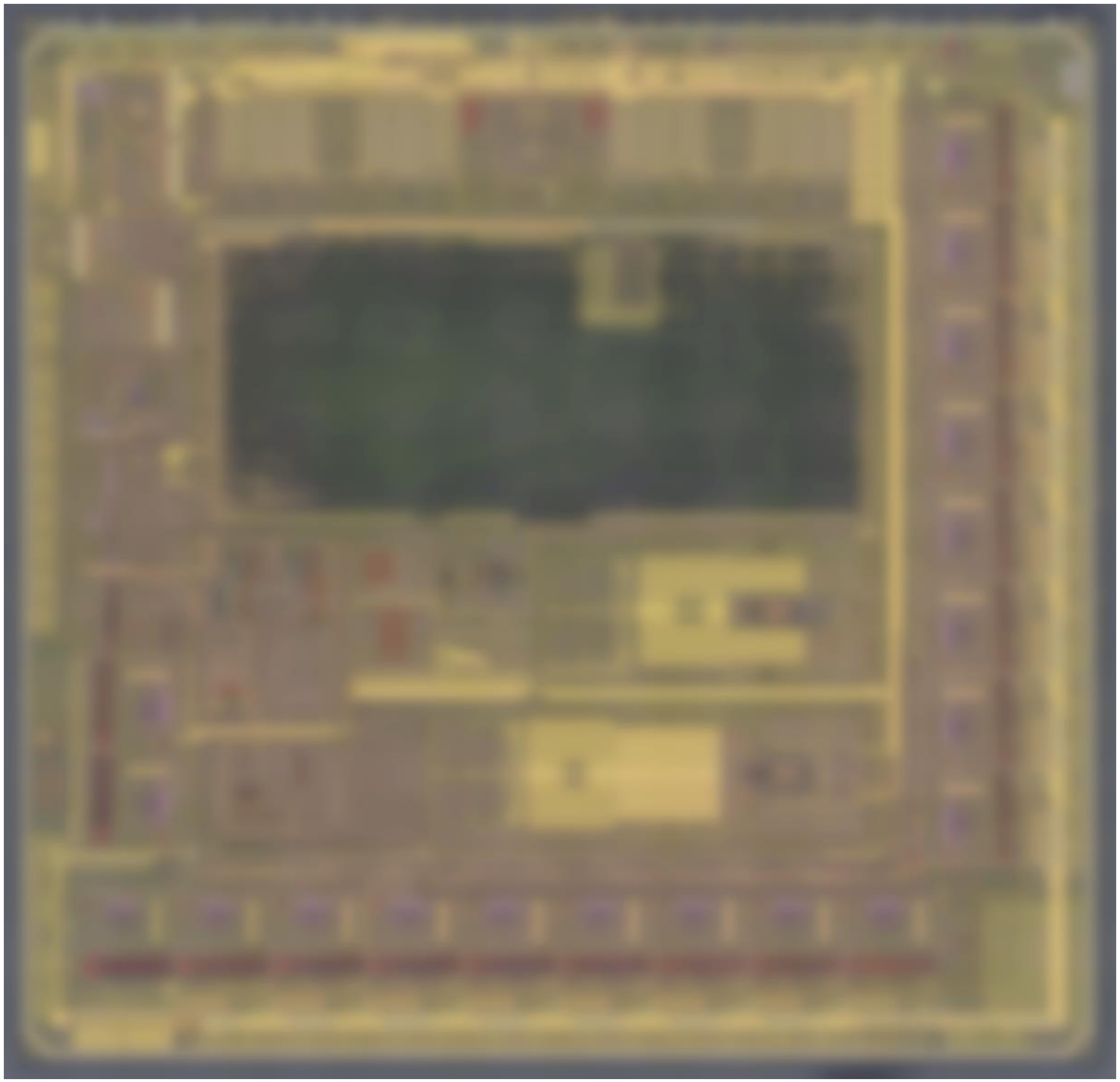


Fig. 1-4-4 Die Overview (4th Metal Layer)

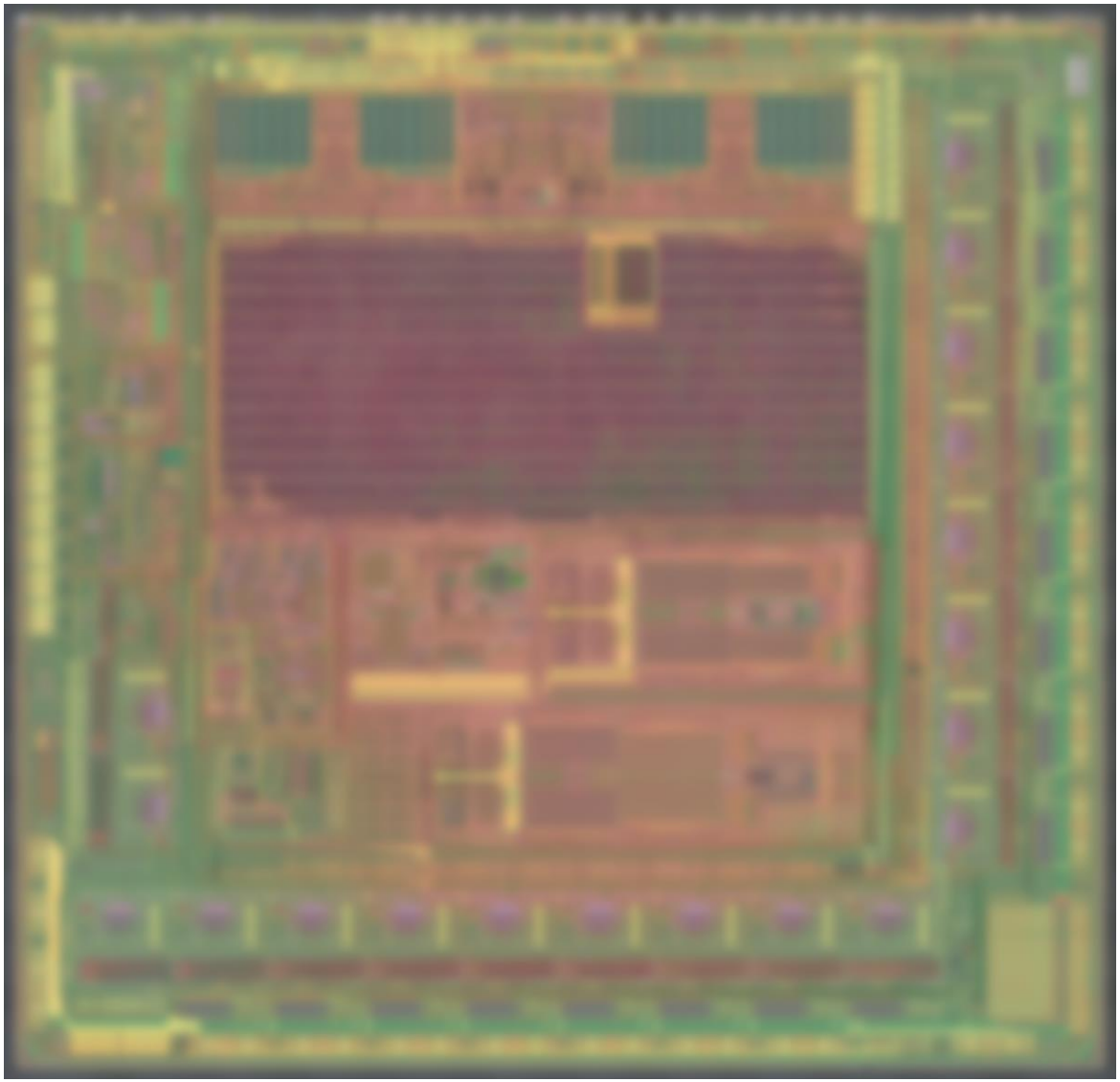


Fig. 1-4-5 Die Overview (3rd Metal Layer)

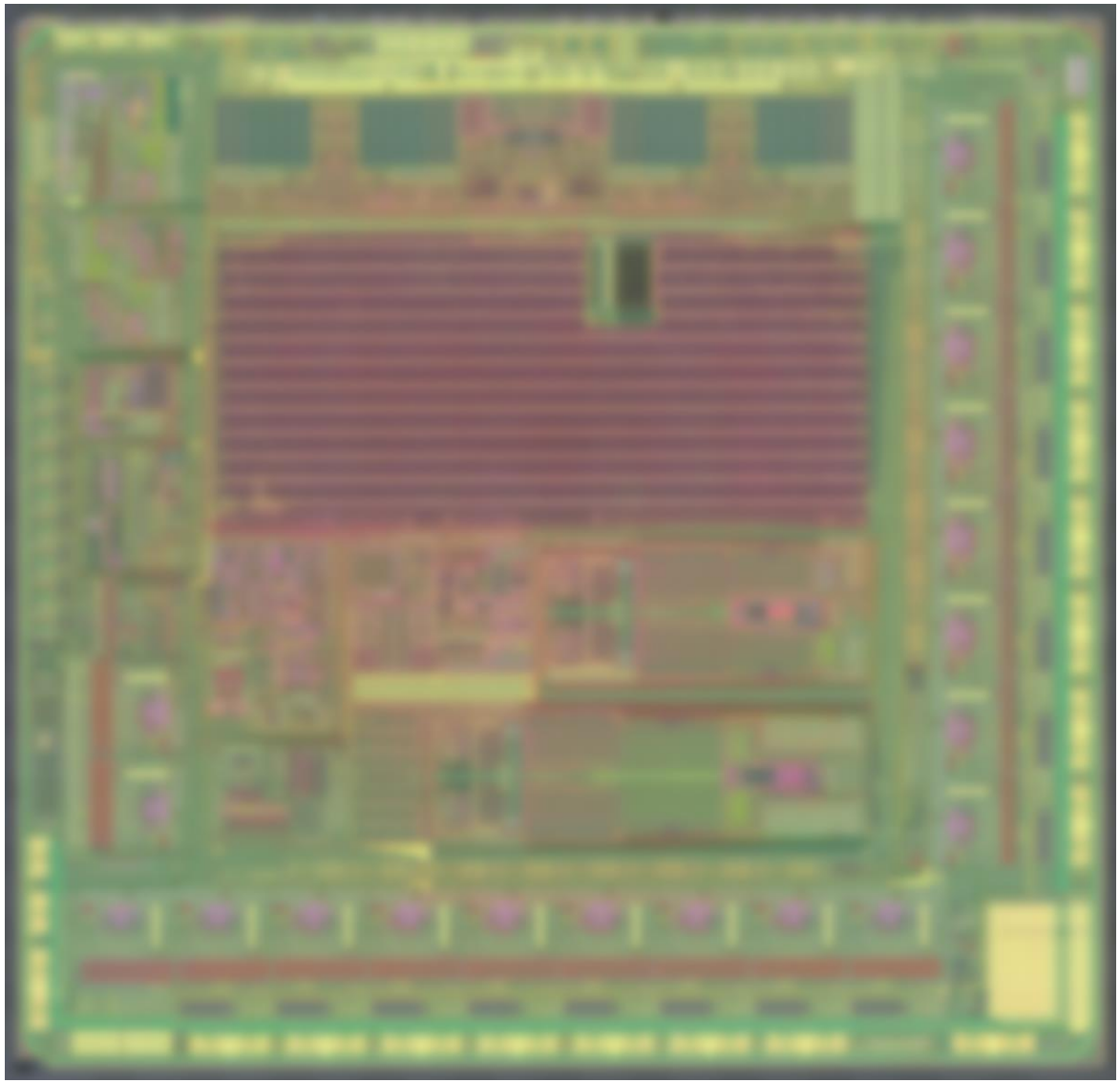


Fig. 1-4-6 Die Overview (2nd Metal Layer)

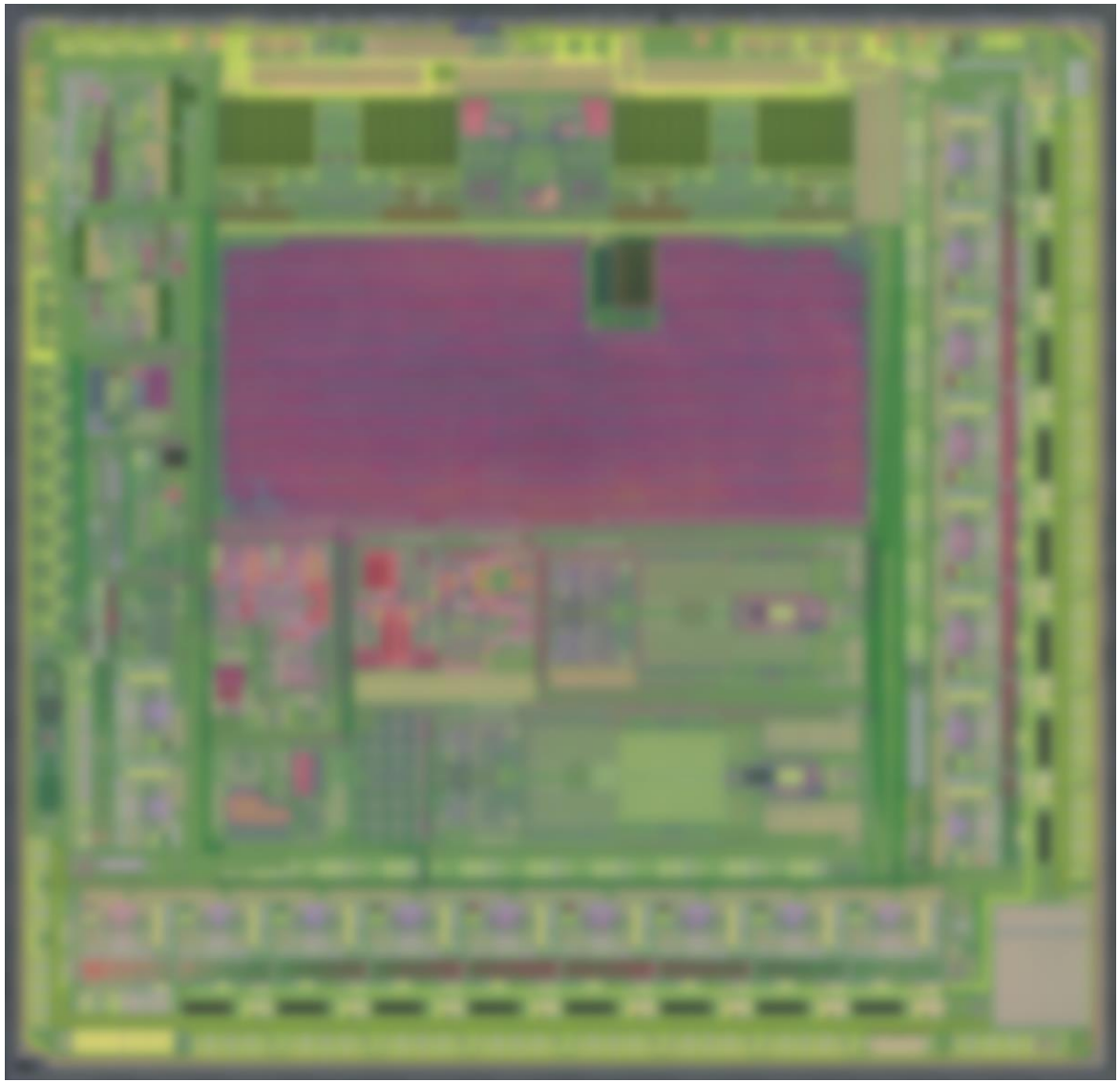


Fig. 1-4-7 Die Overview (1st Metal Layer)

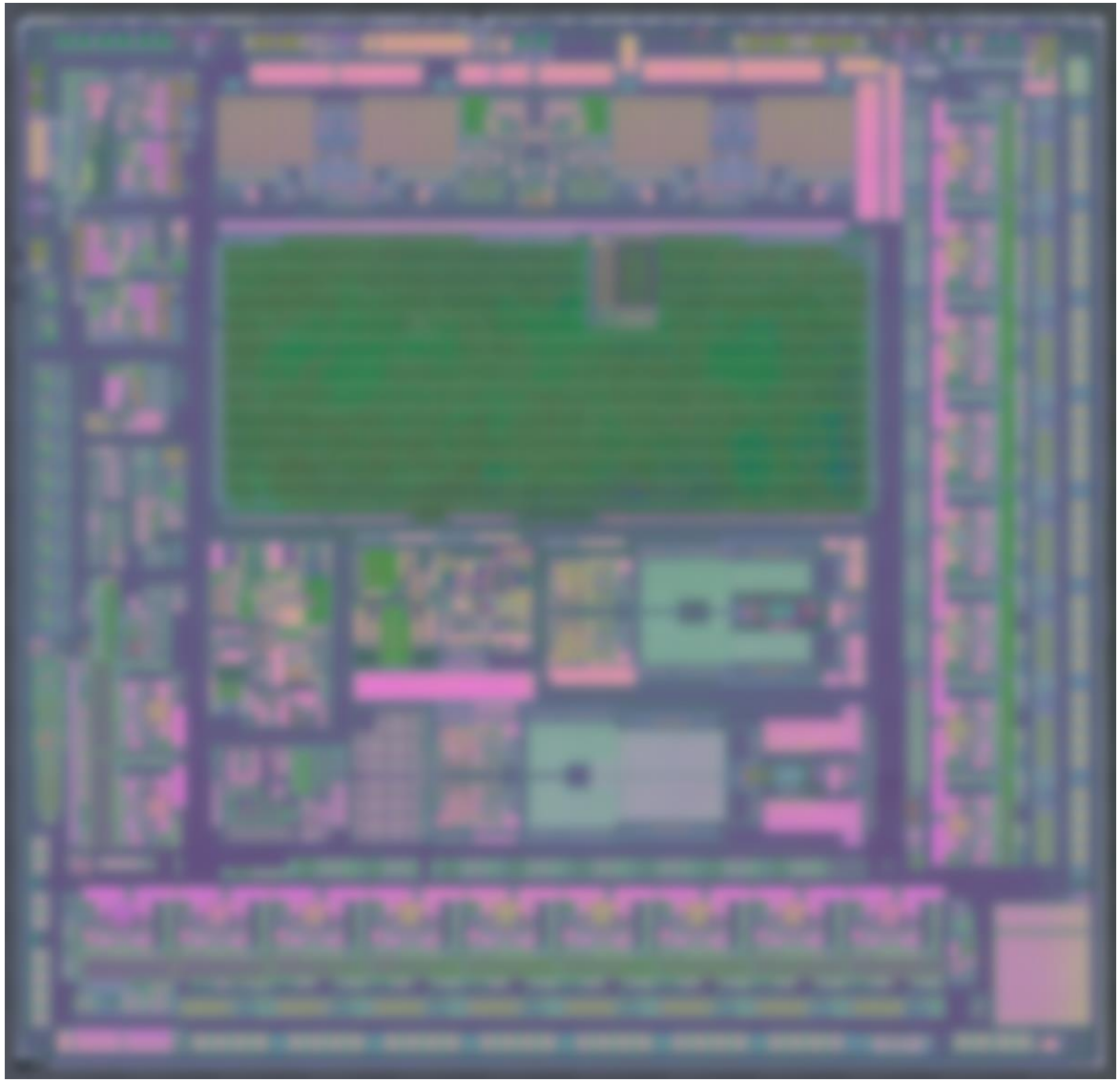
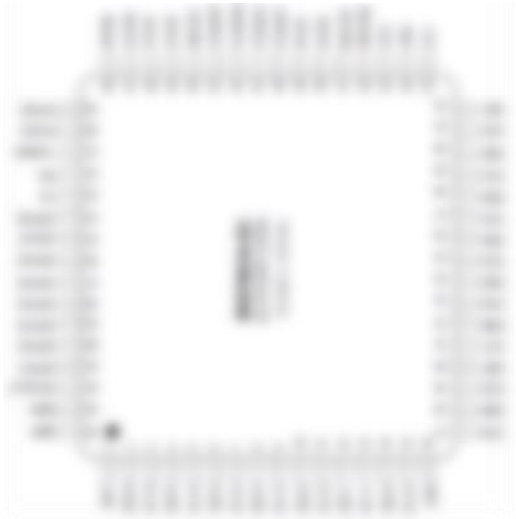


Fig. 1-4-8 Die Overview (Poly-Si Layer)

1-5. Pin Assignment



Top View

Fig. 1-5-1 Pin Assignment (Datasheet)

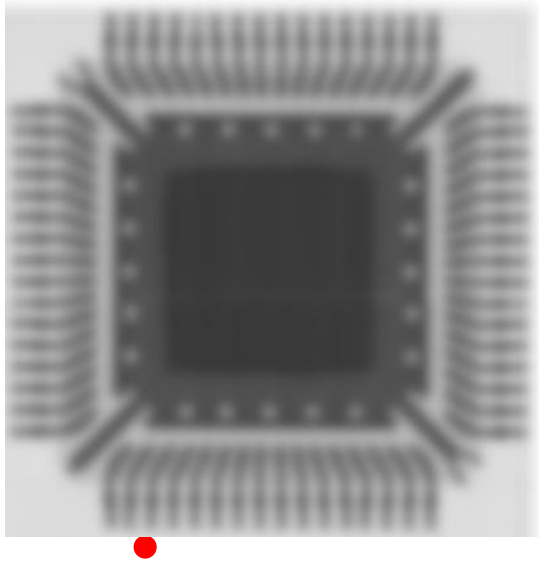


Fig. 1-5-2 Pin Assignment (X-Ray)

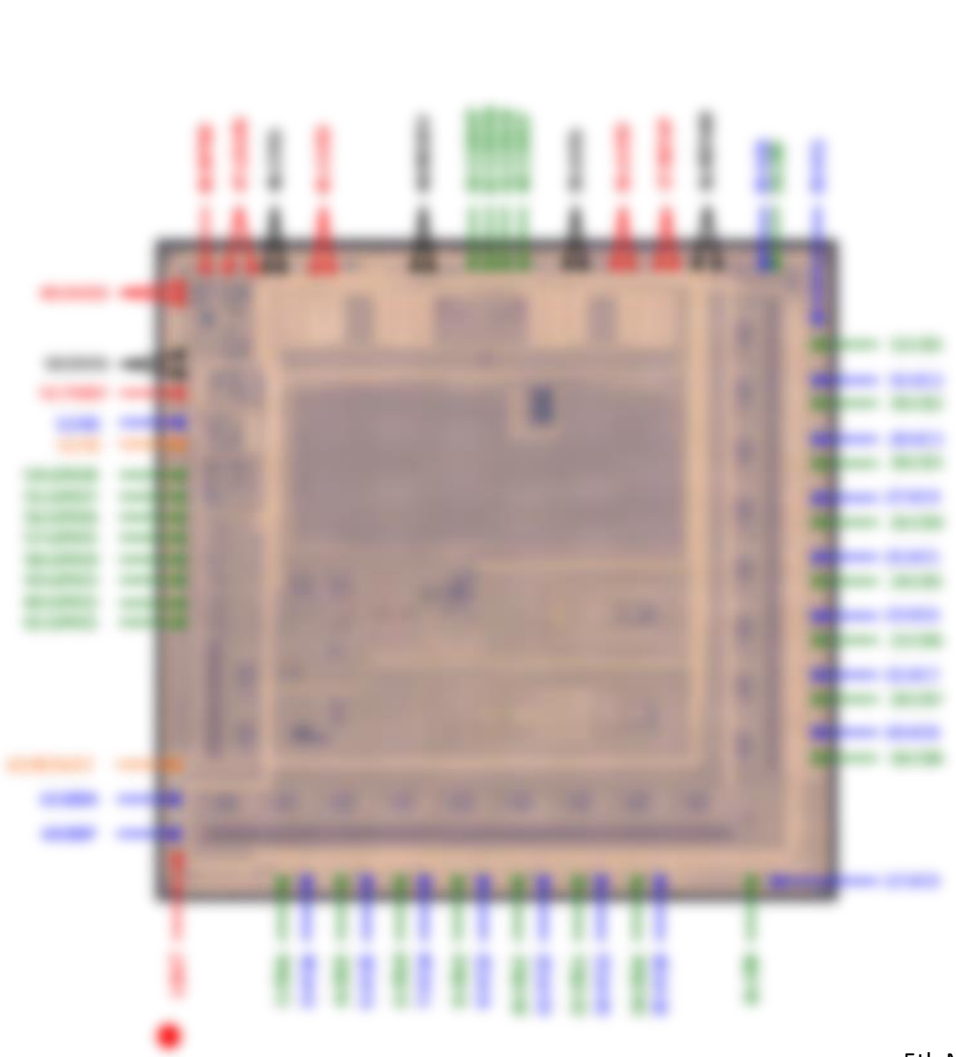


Fig. 1-5-3 Pin Assignment (Die Overview)

2. Elements

2-1. MOS Transistor

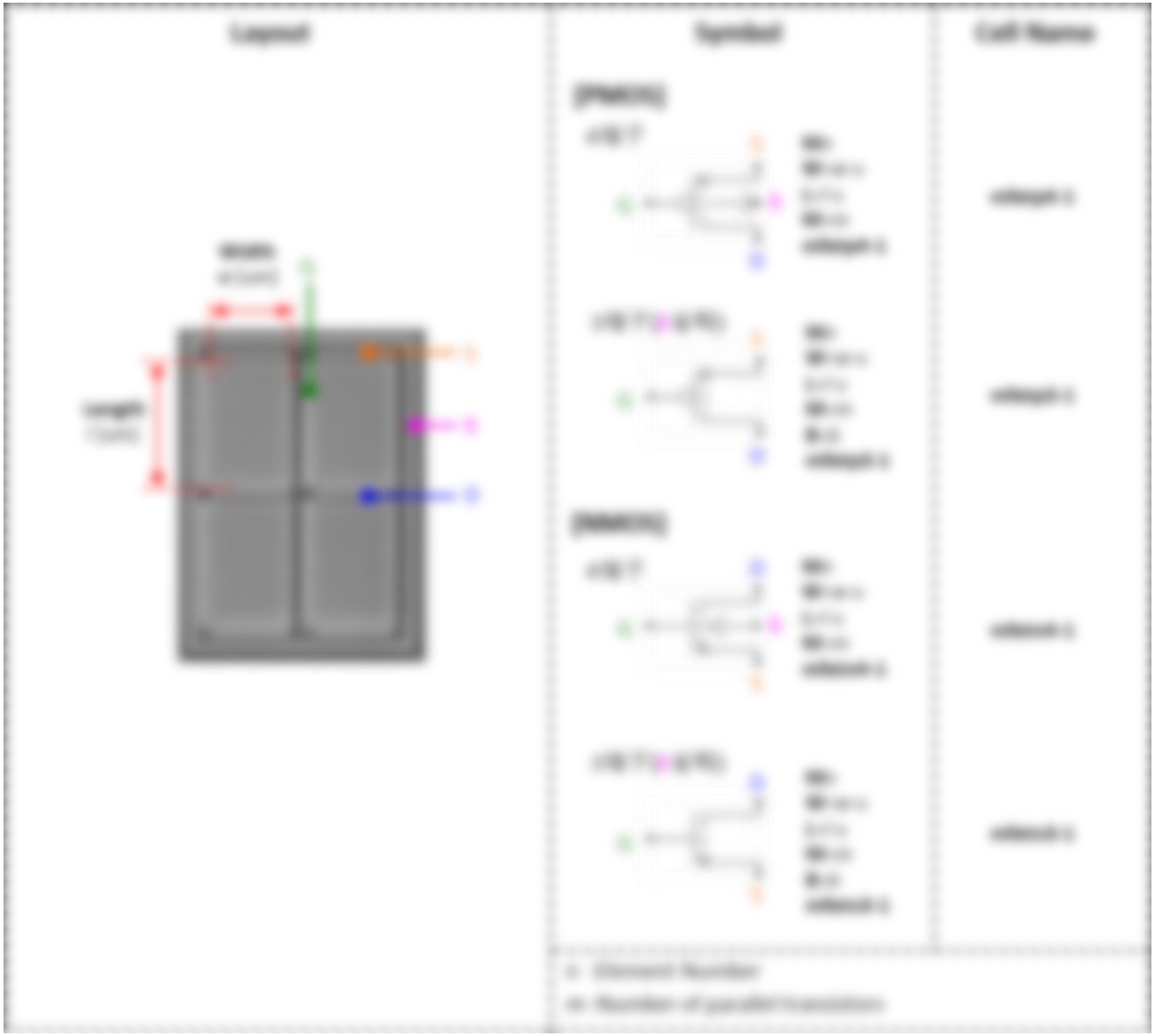
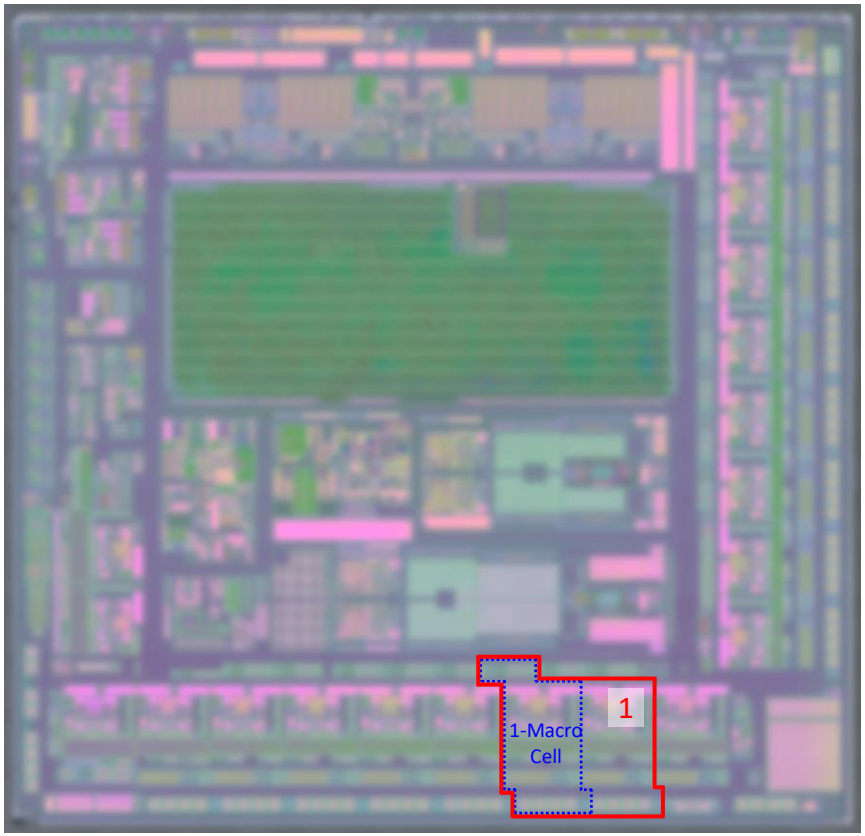


Fig. 2-1-1 MOS Transistor

3. Analysis Area



Poly-Si Layer

Fig. 3-1 Analysis Area

Table 3-1 Function

No.	Function	Fig.
1	Cell Monitor & Cell Balancing	5

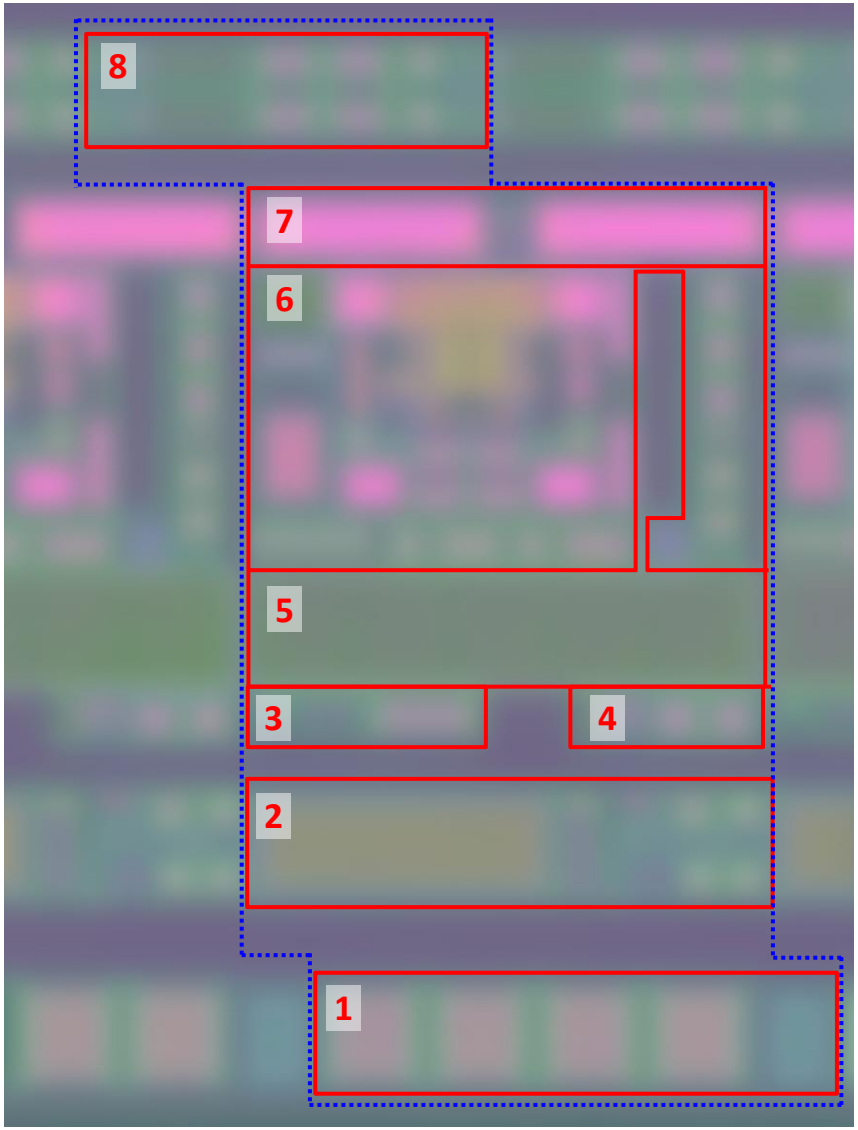


Fig. 3-2 Cell Monitor & Cell Balancing Block (1-Macro Cell)

Table 3-2 Function

No.	Function	Fig.
1	ESD Protection Circuit	5-1
2	Cell Balance Circuit	5-2
3	VC Input Switch	5-3
4	Open Wire Check	5-4
5	Low Pass Filter, Unused Resistor	5-5, 5-9
6	Level Shift Buffer	5-6
7	AAF	5-7
8	CB Input Switch	5-8

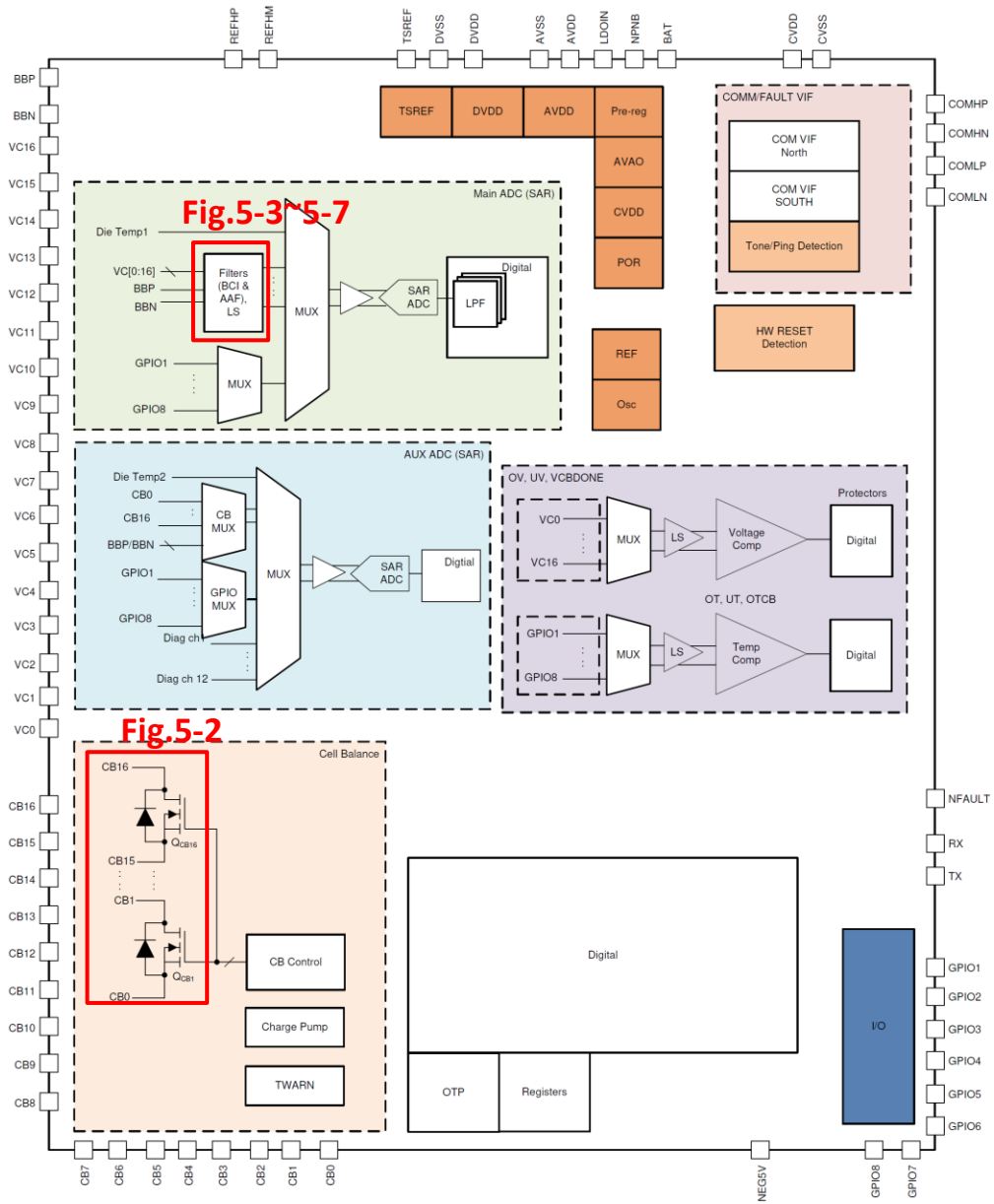


Fig. 3-3 Functional Block Diagram (vs Datasheet)

4. Circuits

Fig.5-3 ~ 5-7

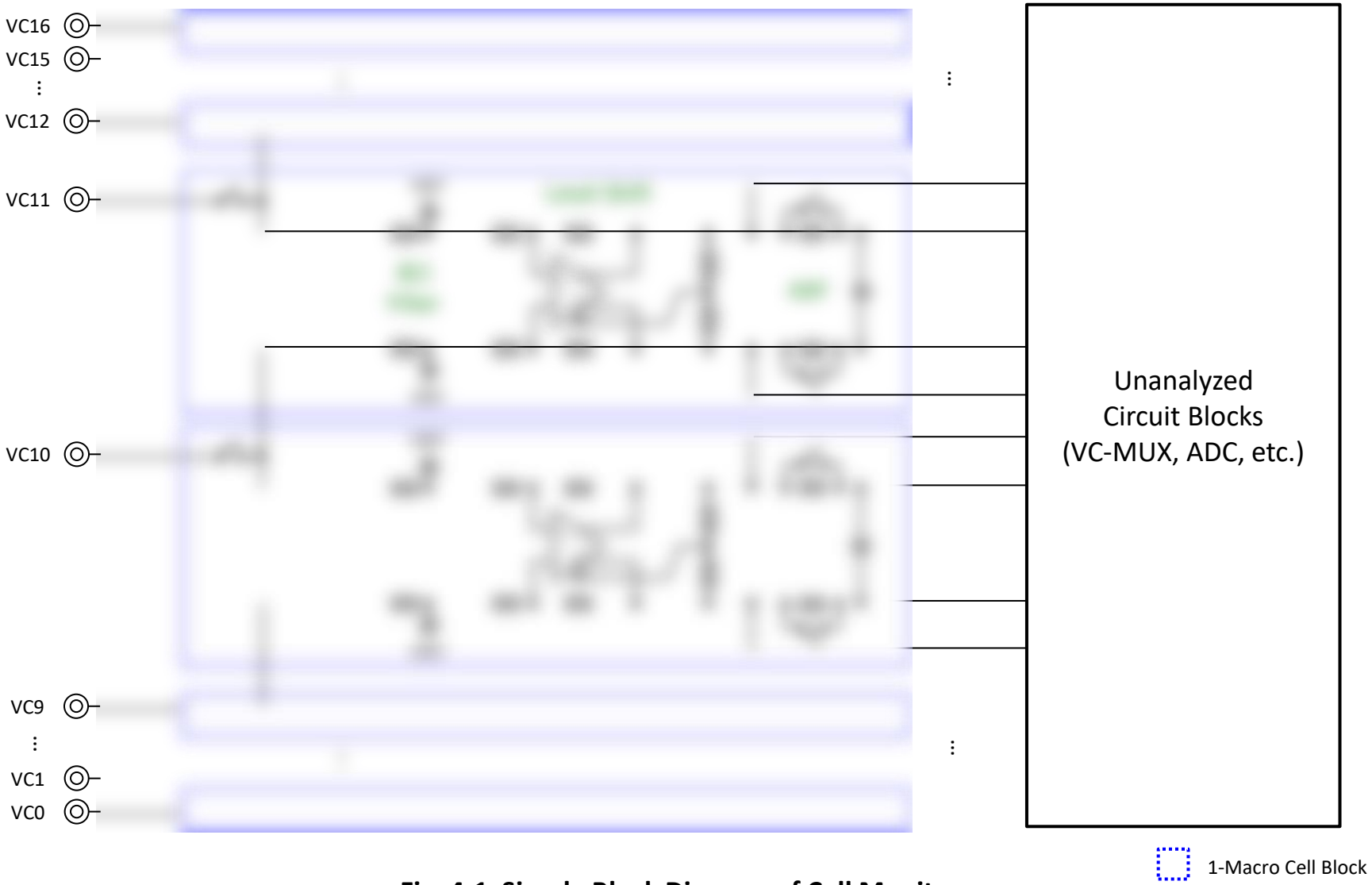
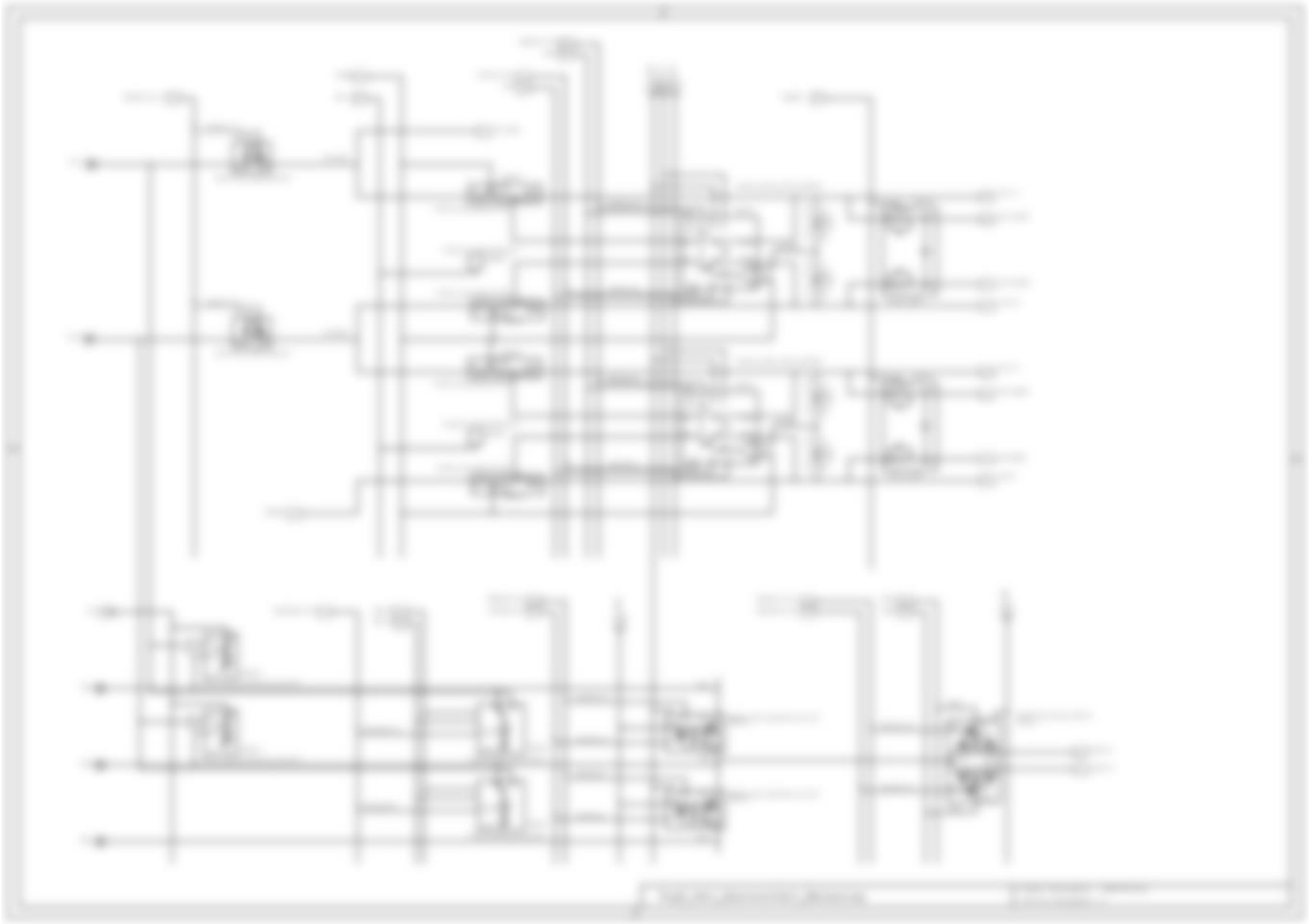


Fig. 4-1 Simple Block Diagram of Cell Monitor



■Return to Previous Circuit [Fig. 5]