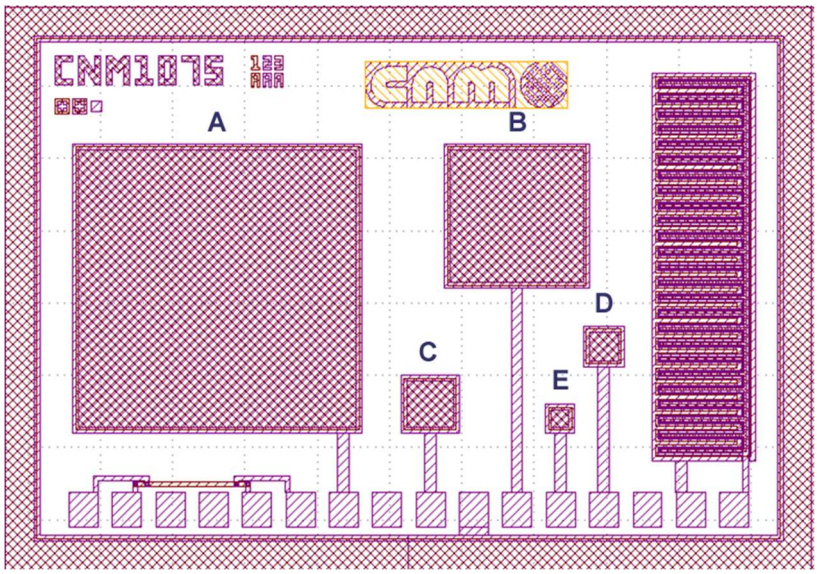
ANNEX I. Formulas

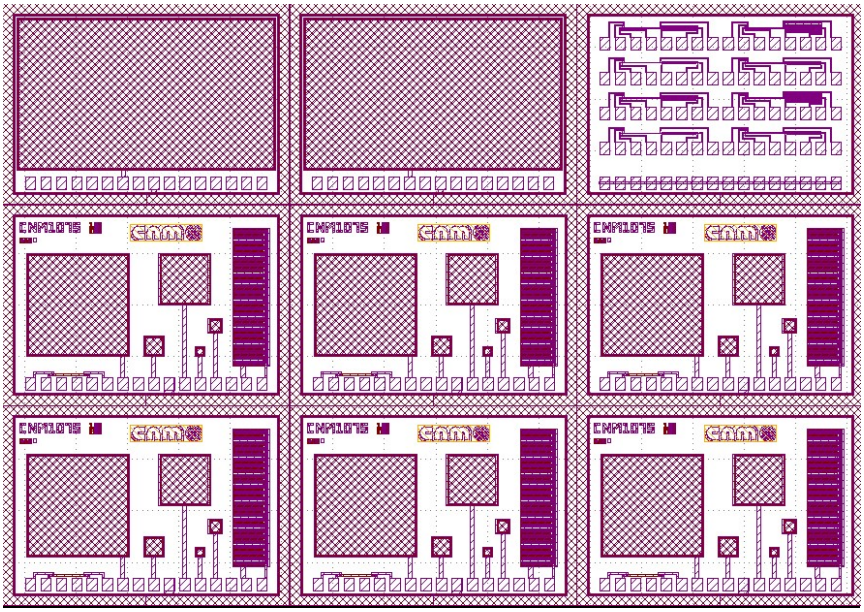
Value	Description	Units
Cmax	Maximum capacity, obtained as an average of the last five values of the curve in accumulation situation, equivalent to the capacity of the oxide (C_{ox}).	pF
Cmin	Minimum capacity, obtained as the minimum value of the curve.	pF
Dox	Oxide thickness. $d_{ox} = \frac{\varepsilon_0 \cdot \varepsilon_{ox} \cdot S}{C_{max}}$	Å
Na	Substrate doping. $ln\left(\frac{Na}{n_i}\right) - \frac{q2 \cdot ni \cdot W_m^2}{4 \cdot \varepsilon_S \cdot k \cdot T}\left(\frac{Na}{n_i}\right) = 0$ $W_m = \varepsilon_S \cdot \left(\frac{1}{C_{min}^{HF}} - \frac{1}{C_{max}}\right)$	cm^{-3}
V_{FB}	Flat band voltage is the voltage for which the capacity is equal to the capacity of flat band (C_{FB}). $C_{FB} = \frac{1}{\frac{1}{C_{ox}} + \frac{1}{Cs_{FB}}}$ $Cs_{FB} = \sqrt{\frac{q^2 \cdot \varepsilon_S \cdot N_A}{k \cdot T}}$	V
Nss	Total charge density on the insulator. $Nss = (\Phi_{MS} - V_{FB}) \cdot \frac{C_{ox}}{q \cdot S}$	cm^{-2}
Rs	Serial resistance. $R_s = \frac{G_{acc}}{G_{acc}^2 + w^2 \cdot C_{acc}^2}$ G_{acc}, C_{acc} = Accumulation conductance and capacitance Then the measured capacitance (C_m) and the measured conductance (G_m) are compensated for this obtained value of R_S according to the following equations: $C_C = \frac{(G_m^2 + w^2 \cdot C_m^2) \cdot C_m}{a^2 + w^2 \cdot C_m^2}$ $G_C = \frac{(G_m^2 + w^2 \cdot C_m^2) \cdot a}{a^2 + w^2 \cdot C_m^2}$ $a = G_m - (G_m^2 + w^2 \cdot C_m^2) \cdot R_s$	Ω

ANNEX II. Layout information CNM1075



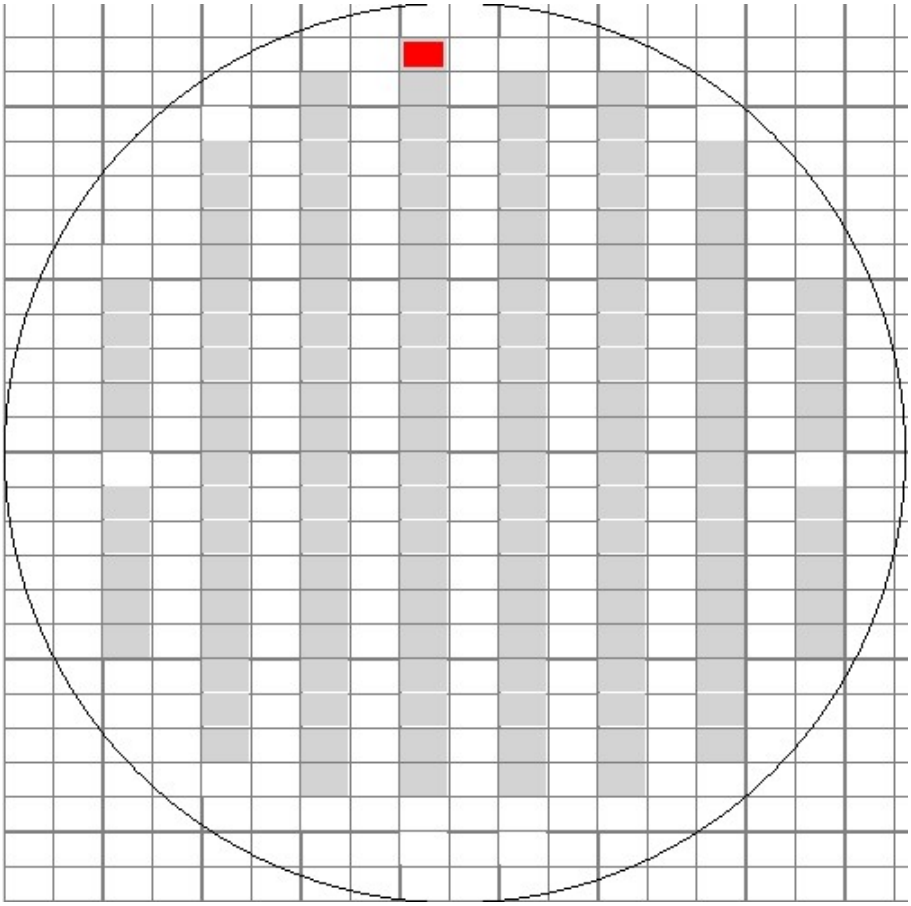
Layout capacitance chip
Chip overall dimensions are X=2790 μm, Y=1950 μm.

CAP	Area (μm^2)
A	980x980
B	480x480
C	180x180
D	120x120
E	80x80



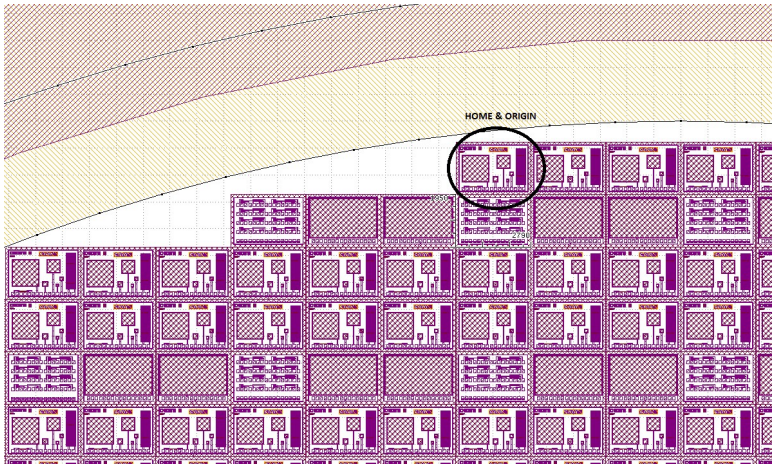
Die CNM1075 with 6 capacitance chip, 2 diodes chip and 1 CBR metal chip
Die overall dimensions are X=8370 μm, Y=5850 μm.

ANNEX III. Wafermap file



Wafermap used in cartography

Total of 141 capacitances



Home and origin detail

2790um x 1950um, DIE: 8370um x 5850um, 141 Chips , home & origin (X=8, Y=1)