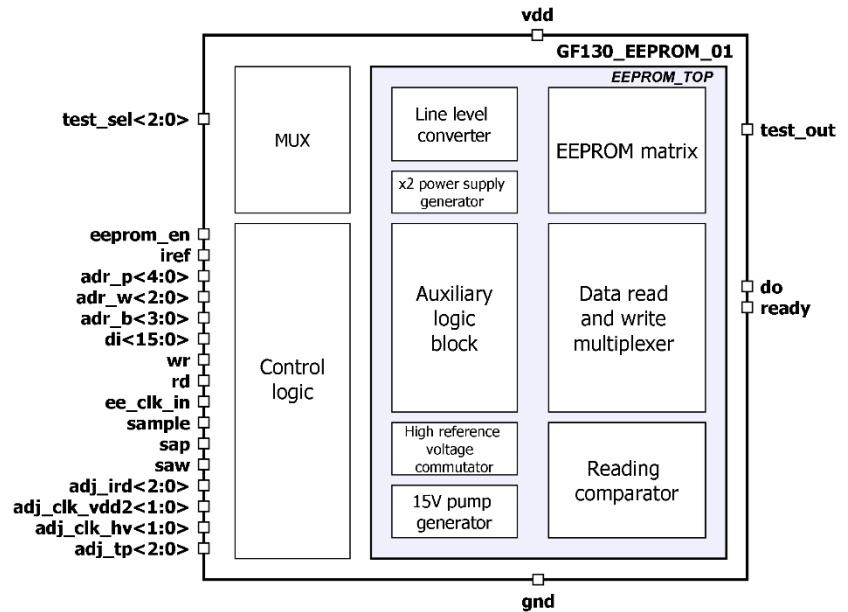


3.6Kbit EEPROM

OVERVIEW

GF130_EEPROM_01 is a nonvolatile electrically erasable programmable read-only memory (EEPROM) with volume 3.6Kbit, which is organized as 28 pages of 8 words by 16 bits with single-bit output data and parallel write data in one word. Data writing is performed by setting data at $di<15:0>$, page address at $adr_p<4:0>$, word address in the page at $adr_w<2:0>$, and then applying $wr="1"$. Writing process finishes with setting flag ready to "1". Data reading is carried out by specifying page address at $adr_p<4:0>$, word address in the page at $adr_w<2:0>$, bit address in the word



at $adr_b<3:0>$, and then applying the reading comparator strobe $sample="1"$. The read bit appears at pin do after some delay. Memory is optimized for usage in the industrial and commercial applications, requiring low power consumption and supply voltage. Data to be write are set at data input pin $di<15:0>$. Writing process starts, when signal wr goes to "1". Data $di<15:0>$, page address $adr_p<4:0>$, word address in page $adr_w<2:0>$ are latched into internal registers and cannot be changed until the end of the writing process. At the end of the writing, the $ready = "1"$ flag is set.

IP technology: Global Foundries Embedded EEPROM 0.13 μm .

IP status: pre-silicon verification

Total area: 0.096mm²

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V_{dd}	-	1.1	1.2	1.5	V
Operating temperature range	T	-	-40	+27	+85	°C
Reference current	I_{ref}	-	-	50	-	nA
EEPROM size	S	-	-	3.6	-	Kbit
Clock frequency	F_{clk}	-	-	2	-	MHz
Time of writing process of one word	t_{wr}	-	-	4.1	-	ms
Read setup time relative to read signal	T_{READS}	-	10	-	-	us
Current consumption in read mode	I_{read}	-	1.6	2	3.5	uA
Average current consumption in write mode	I_{write}	-	7.5	10.0	22.0	uA
Average current consumption in write mode	I_{write}	-	7.5	10.0	22.0	uA
High level input voltage	V_{IH}	For digital inputs	0.7 V_{dd}	-	-	V
Low level input voltage	V_{IL}		-	-	0.3	V