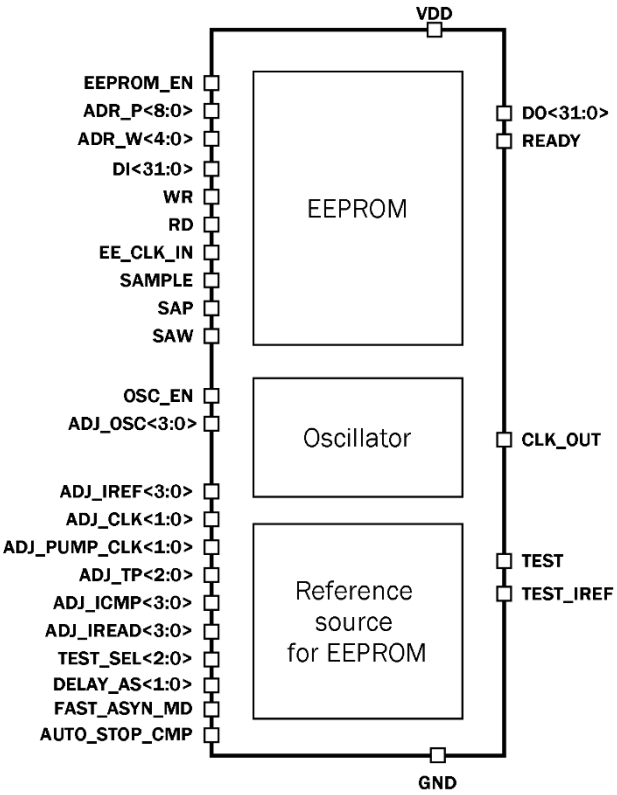
36Kbyte EEPROM IP with configuration 32p32w288bit and oscillator

OVERVIEW

130GF_EEPROM_07 is a nonvolatile electrically erasable programmable read-only memory with volume 36Kbyte (32(bit per word) x 32(words per page) x 288(pages)) with parallel write/read data in one word. Write EEPROM page data comes to input DI<31:0> and write process execute if signal WR = "1". Data DI<31:0>, page address ADR_P<8:0>, word address in page ADR_W<4:0> 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. Data reading is carried out by specifying the page address ADR_P<8:0> and the address of the word in the page ADR_W<4:0>. After applying the reading strobe, the DO<31:0> signal is set at the output corresponding to the reading data from the corresponding addresses of the EEPROM cell. EEPROM also has a gated clock cell output (glitchless start) from a built-in oscillator. The oscillator has frequency control inputs to compensate for process variation. Memory is optimized for usage in the industrial and commercial applications, requiring low power consumption and supply voltage.



IP technology: Global Foundries Embedded EEPROM 0.13 um.
IP status: pre-silicon verification
Total area: 2.31mm^2

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V_{dd}	-	1.1	1.2	1.3	V
Operating temperature range	T_j	-	-40	+27	+85	°C
Input clock frequency	Fin	-	–	8	–	MHz
EEPROM size	S	-	–	36	–	Kbyte
Output clock frequency	Fout	ADJ_OSC = "1010" (by default)	5.9	7.8	11.2	MHz
		ADJ_OSC = "1111" (max setting)	8.7	–	–	
		ADJ_OSC = "0000" (min setting)	–	–	5.7	
Time of writing process of one word	t_{wr}	Fclk=8MHz, AdjTP="010"	–	2.1	–	ms
Read setup time relative to read signal	t_{reads}	Fclk=8MHz	–	20	–	us
Current consumption in read mode	I_{read}	Depending on the F read word per sec Fclk	–	250	380	uA
Average current consumption in write mode	I_{write}	Average for 1 programming cycle Fclk=8MHz	–	–	0.4	mA
High level input voltage	V_{IH}	For digital inputs	0.7V_{dd}	–	–	V
Low level input voltage	V_{IL}		–	–	0.3	V