

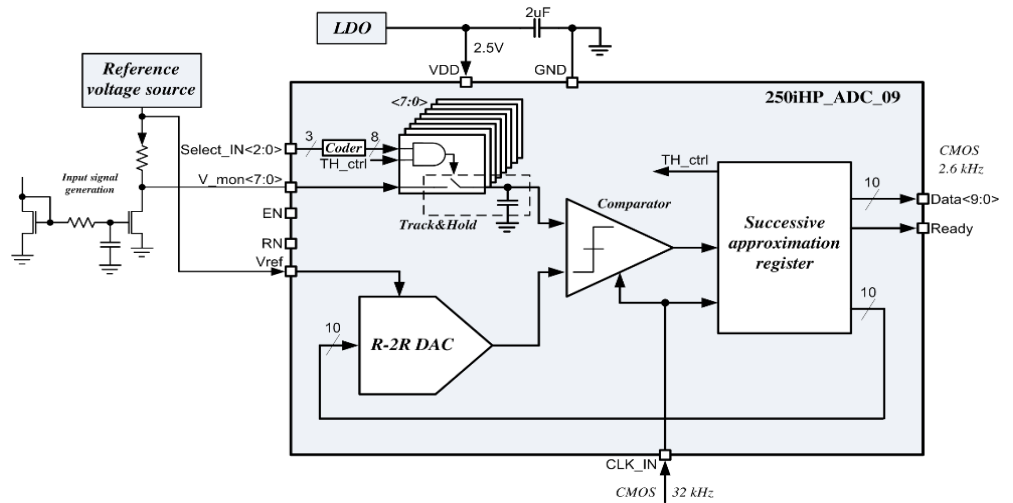
10-bit 2.6 kSPS SAR ADC
OVERVIEW

250iHP_ADC_09 is 10-bit 2.6 kSPS ADC employs high-performance single ended successive approximation architecture with embedded 8-input signal multiplexer. The ADC operates with sampling rate 2.6 kSPS and corresponding input clock 32 kHz. The ADC supports standby mode and features low power consumption, compact area.

IP technology: iHP SiGe BiCMOS 0.25um.

IP status: silicon proven.

Area: 0.04mm².


ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V _{DD}	-	2.38	2.50	2.62	V
Junction temperature	T _J	-	0	+27	+85	°C
Reference voltage	V _{REF}	-	1.5	2.5	V _{DD}	V
Current consumption	I _{DD}	Active mode	-	70	130	uA
	I _{ST}	Standby mode	40	100	190	nA
Power consumption	P _{TOTAL}	V _{REF} tied to V _{DD}	-	0.25	-	mW
Input capacitance	C _{IN}	-	6.0	-	6.5	pF
Clock frequency	F _{CLK}	-	12	32	-	kHz
Sample rate	F _S	-	-	2.66	-	kSPS
Resolution	N	-	-	10	-	bit
Effective number of bits	ENOB	-	-	8	-	bit
Spurious free dynamic range	SFDR	-	-	62	-	dB
Differential nonlinearity	DNL	wrt 8bit LSB	-	-	1	LSB
Input voltage range	V _{MON}	-	0	-	V _{REF}	V
Clock input duty cycle	S	-	45	50	55	%
Clock signal period jitter	C _P	-	-	-	50	nS
Input logic-high level	V _{IH}	Digital inputs and clock	0.9*V _{DD}	-	V _{DD}	V
Input logic-low level	V _{IL}		0	-	0.3	V