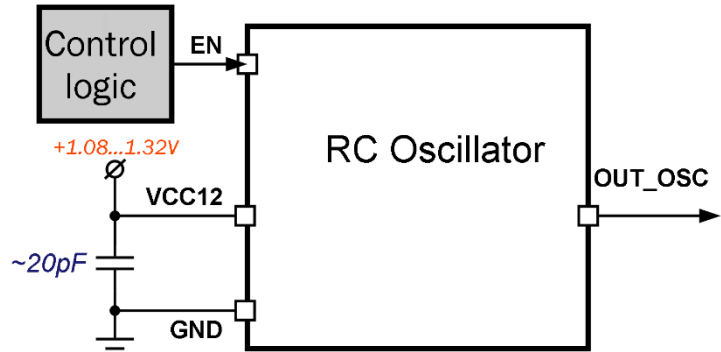


5 MHz RC oscillator

OVERVIEW

055SMIC_OSC_02 is a low power RC oscillator nominally operates at 5MHz output clock from a 1.2V supply. The oscillator operates in a voltage range of 1.2V +/-10%, frequency range from 4.22MHz to 5.91MHz and is qualified over a broad temperature range of -60°C to 150°C. The oscillator has duty cycle specifications (35% ÷ 60%).



IP technology: SMIC 55nm LL.

IP status: pre-silicon verification.

Silicon area: 0.00117mm².

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	VCC12	-	1.08	1.2	1.32	V
Oscillator operating temperature range	T _j	-	-60	25	150	°C
Current consumption	I _{CC}	-	-	4.3	15	uA
Current consumption in a standby mode	I _{stby}	-	-	0.4	300	nA
Output frequency	F _{out}	-	.	.	.	MHz
Start time	t _{start}	-	-	1	200	ns
Output signal duty cycle	DC _{out}	-	35	41	60	%
Input logic-level high	V _{IH}	For digital inputs	0.8*VCC12	-	VCC12	V
Input logic-level low	V _{IL}		0	-	0.2	
Output logic-level high	V _{OH}	For OUT_OSC output	0.8*VCC12	-	VCC12	V
Output logic-level low	V _{OL}		0	-	0.2	