

## 1.024 MHz RC oscillator

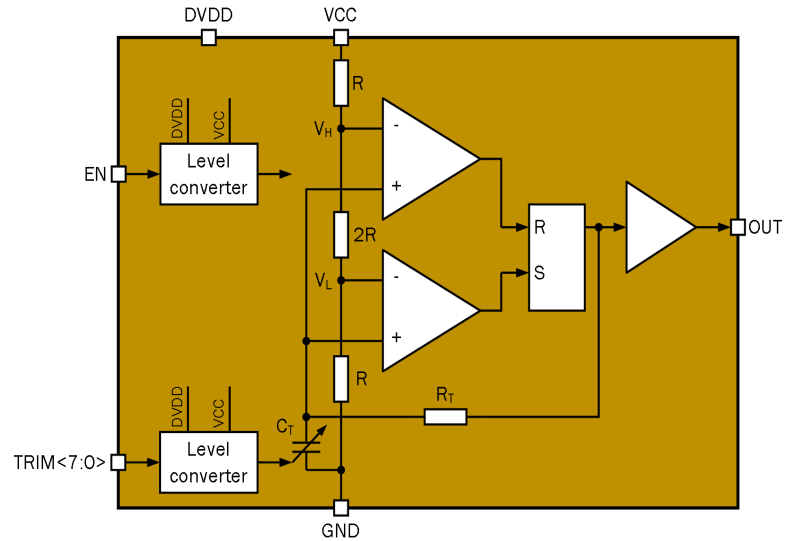
### OVERVIEW

055GF\_OSC\_01 is a low power high resolution RC oscillator nominally operates at 1.024 MHz output clock from a 1.2 V supply. No external components are required. The oscillator operates in a voltage range of 1.2 V +/-5% and is qualified over a broad temperature range of -40°C to 85°C. The oscillator has excellent nominal duty cycle 50% within +/-10%.

IP technology: Global Foundries CMOS 55 nm.

IP status: pre-silicon verification.

Silicon area: 0.0059mm<sup>2</sup>.



### ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V <sub>CC</sub>	-	1.14	1.2	1.26	V
	V <sub>DVDD</sub>	-	-	1.2	-	
Operating temperature range	T <sub>j</sub>	-	-40	27	85	°C
Output frequency	F <sub>out</sub>	After trimming	-	1.024	-	MHz
Frequency trim range	R	-	0.9	-	1.18	MHz
Frequency accuracy	A <sub>F</sub>	After trimming	-	1	-	%
			0 ≤ T <sub>j</sub> ≤ 50	-	1	
			-40 ≤ T <sub>j</sub> ≤ 0, 50 ≤ T <sub>j</sub> ≤ 85	-	3	-
Supply current	I <sub>cc</sub>	-	-	-	10	uA
Duty cycle	DC	-	45	50	55	%
Start-up time	T <sub>start</sub>	-	-	3	-	cycle
Input logic-level low	V <sub>IL</sub>	For input digital signals	-	-	0.3*V <sub>CC</sub>	V
Input logic-level high	V <sub>IH</sub>		0.7*V <sub>CC</sub>	-	-	V
Output logic-level low	V <sub>OL</sub>	For output digital signal	0	-	0.2*V <sub>CC</sub>	V
Output logic-level high	V <sub>OH</sub>		0.8*V <sub>CC</sub>	-	V <sub>CC</sub>	V