

KEY FEATURES

- Rail to rail output
- Power-Supply voltage 0.8V – 1.2V
- Nominal current consumption of 1.5uA.
- 32 KHz output clock frequency.
- TSMC 0.13u 1P5M process

OVERVIEW

CC032300XOSC-T130G is a low power crystal oscillator. It operates with a supply range of 0.8V- 1.2V generating accurate 32 KHz clock. The nominal current consumption is 1.5uA. This amplifies the sinusoidal oscillation signal to a rail to rail square wave output and delivers CMOS logic level output with good duty cycle at the output.

DIFFERENTIATION

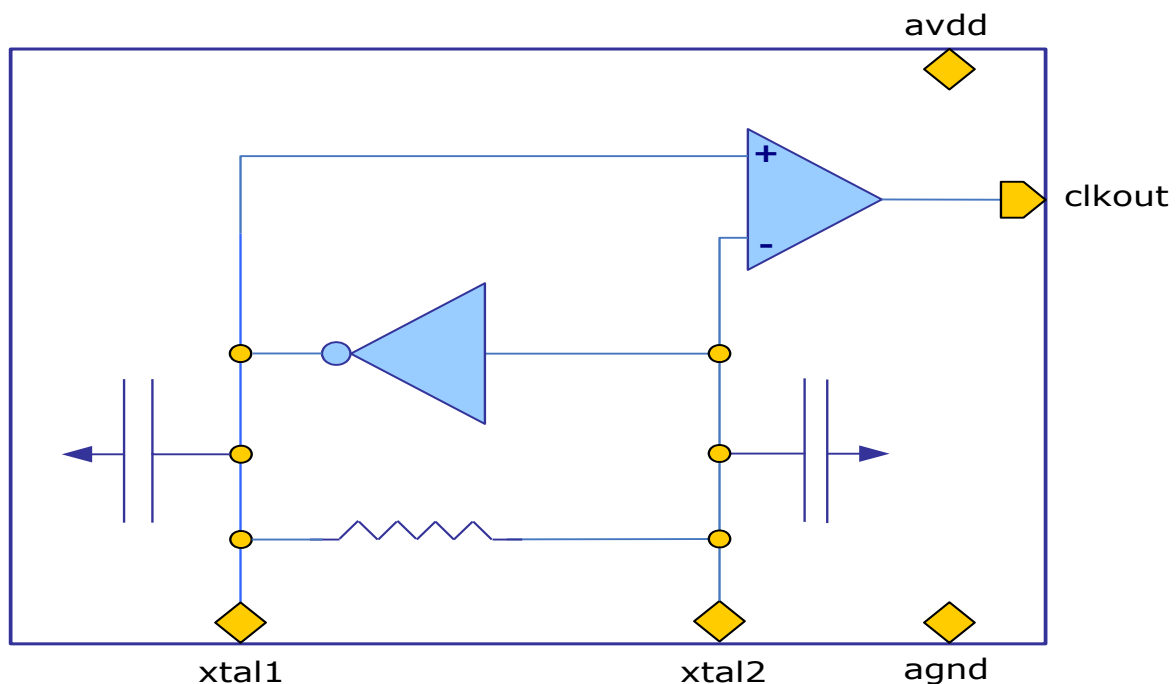
The crystal oscillator works with a supply as low as 0.8V which makes it suitable for SOC kind of applications. The oscillator has all the components integrated thereby saving system BOM cost and board space in mobile applications.

The oscillator has very low nominal power consumption of 1.5uA which makes it attractive for real time clock applications.

APPLICATIONS

- Real time clock.

BLOCK DIAGRAM



SPECIFICATIONS TABLE

Parameter	Condition	Value			Units
		Min	Nom	Max	
Supply current	Over full Operating Voltage		1.5		uA
Operating voltage	VDD Range	0.8	1.2	1.32	V
Frequency			32.768		KHz
Frequency stability			300		ppm
Startup time				600	mS
Operating Temperature		-40		125	°C
Duty cycle		45		55	%
Process		TSMC 130nm 5ML			
Status		Silicon Proven			

Note-1: Product specifications are subject to change without notice. No responsibility is assumed for use of information herein.

Note-2: Products specifications such as that described above can typically be altered and customized for specific applications. Contact Cosmic Circuits for more information.

ABOUT COSMIC CIRCUITS

Cosmic Circuits is a provider of differentiated and complex Analog, Mixed-Signal & RF Silicon IP cores. We create and provide IP cores that are best-in-class and thereby make our customers' solutions differentiated and low-cost.

Cosmic Circuits has quickly grown to be a company with the potential to become the destination of choice for world-wide customers for their complex and differentiated Analog, Mixed-Signal & RF Intellectual Property needs.

DIFFERENTIATED IPS

We endeavor to create and provide Analog-IP solutions that are unique in functionality, burn the least amount of power, and take up minimal silicon die-area. 'Best-in-Class' is our Mantra. By using our analog-IP cores, our customers can expect their solution not to be disadvantaged because of analog, and even better, let the analog stand-out as a differentiating factor for the entire solution.

We value our unique blend of deep and broad analog skills and understanding of systems. Our customers can engage with our experts on the type of customization that needs to be done, or the kind of trade-offs to make, and expect the interaction to be a rewarding experience.

DELIVERABLES

We provide the following deliverables to aid quick and reliable integration into the design flow. Please contact us for any additional views.

- ✓ GDSII
- ✓ Netlist (Spice format for LVS)
- ✓ Footprint (LEF format)
- ✓ User documentation
- ✓ Module integration guidelines
- ✓ Datasheet
- ✓ Silicon validation report (where available)
- ✓ Evaluation board (where available)

LICENSING AND CUSTOMIZATION

Our engagements-models includes single-use and multi-use licensing of our IP-cores, Customization of IP-cores, Process porting of the cores to the customers' target process, turn-key development and licensing of customized IP cores and full-chip solutions, as well as supply of Known-Good-Dies (KGD) of full-chip ICs.

SUPPORT

We consider ourselves successful when our customers succeed. We offer active support, both during the chip integration phase and during the product-ramp phase. We offer on-site support when needed. With Cosmic Circuits, our customers can be assured of a reliable partner interested in the success of the end product.

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