

KEY FEATURES

- High-frequency Clock Multiplying Integer PLL
- High VCO frequency of 700-2000MHz
- Reference clock can be as low as 1MHz
- Programmable dividers provides flexibility in input and output frequency combinations
- No external components
- Low jitter suitable for a variety of applications
- Less than 100µS of startup time
- Power Supply
 - 3.3V \pm 10%
 - 1.2V \pm 10%
- Excellent PSRR: can tolerate up to 100 mV noise on 3.3V supply and 30 mV noise on 1.2V supply
- Low-power: Contact
ip@cosmiccircuits.com
- Samsung 65nm LP 6LM, 3.3V IO MOS

OVERVIEW

CC0120INPLL-S65LP is a versatile clock-multiplying PLL suitable for several applications. The PLL gives a good jitter performance even in the presence of high supply noise. The PLL uses no external components and has a fast startup-time of 100µS.

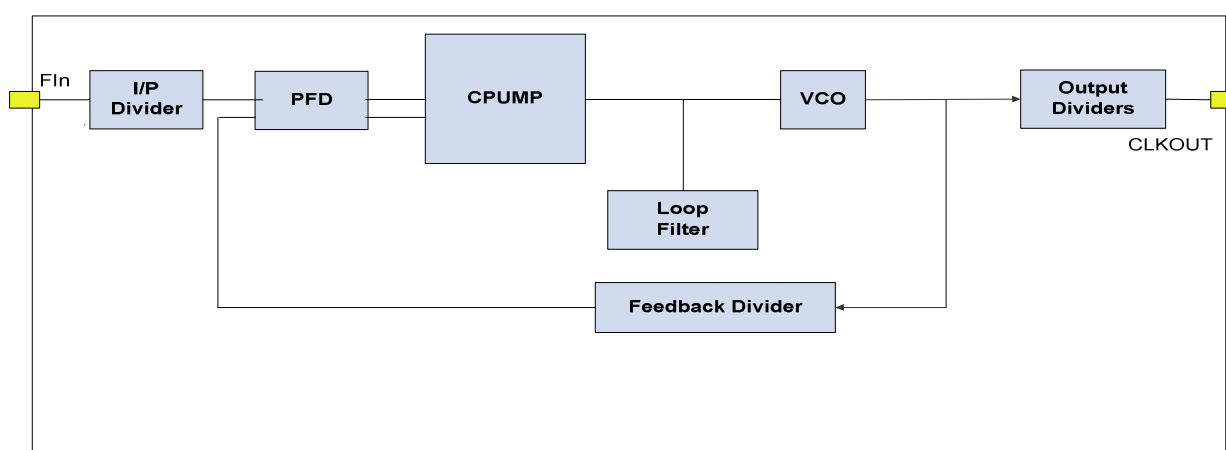
DIFFERENTIATION

- Clock multiplication to high VCO frequency of 2.0GHz from a low 1MHz input reference clock
- Low-power – makes it suitable for battery powered and portable applications
- Low jitter even in the presence of noisy supply

APPLICATIONS

- Interface clocks
- Processor and logic clock
- Multi-rate audio applications

BLOCK DIAGRAM



SPECIFICATIONS TABLE

Parameter	Condition	Value			Units
		Min	Nom	Max	
Power Supply	VDD33	3.0	3.3	3.6	V
	VDD12	1.08	1.2	1.32	V
Temperature		-40		125	C
Input Frequency		1.0		40	MHz
VCO Frequency		700		2000	MHz
Input divider		1		32	Counts
Feedback divider		16		2048	Counts
Output divider		1		32	Counts
Output frequency		25		2000	MHz
Output clock duty cycle	For even output division		50		%
	For odd output division	30		70	%
Frequency settling after power-up				100	μS
Jitter – peak-to-peak period	For 400 MHz output			100	pS
Jitter - Accumulated RMS				500	pS
Tolerable Supply Noise					
	VDD33			100	mV
	VDD12			30	mV
Power		Contact ip@cosmiccircuits.com			mW
Area		Contact ip@cosmiccircuits.com			mm ²
Process		Samsung 65 nm LP 6LM process			
Status		GDS Available			

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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