

### KEY FEATURES

- Multiphase DLL with low jitter
- Peak-to-peak period jitter of 100ps at the final clock out.
- Supports a wide input frequency range of 80MHz-250MHz
- Can generate up to twenty equally spaced phases of the input clock.
- Single Power Supply
  - 1.2V $\pm$  10%
- Core Cell Area: Contact [ip@cosmiccircuits.com](mailto:ip@cosmiccircuits.com)
- Low-power: [ip@cosmiccircuits.com](mailto:ip@cosmiccircuits.com)
- TSMC 130nm 1P6M G

### OVERVIEW

CC12250MPDLL-T130G is ideal for generating low jitter multiple phases for clock recovery applications and for removing clock skew in clock tree networks. The DLL supports an input range of 80MHz – 250MHz and can generate up to 20 equally spaced phases of the input clock with low period jitter of 100pS p-p at the final clock output. This makes it suitable for clock and data recovery applications and for removing clock skew in clock tree networks.

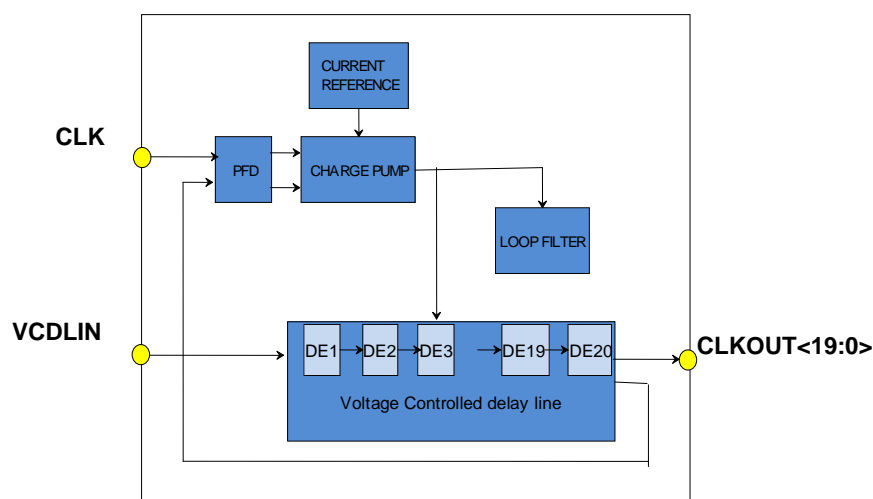
### DIFFERENTIATION

This DLL can be used to generate up to 20 equally spaced phases of the input clock for a wide input range of 80MHz-250 MHz with low peak-to-peak period jitter of 100 ps at the final clock out. The high PSRR and the low-power are other useful aspects.

### APPLICATIONS

- Multiple phases for analog sampling
- Multiple phases for clock and data recovery applications
- Clock skew removal in clock tree networks.

### BLOCK DIAGRAM



### SPECIFICATIONS TABLE

Parameter	Condition	Value			Units
		Min	Nom	Max	
Power supply		1.08	1.2	1.32	V
Temperature		-40		125	C
Input Frequency		100		250	MHz
No of phases				20	
Output clock duty cycle		50			%
Lock time		100			μS
p-p Jitter – cycle to cycle at the final clock output				100	pS
Tolerable Supply Noise				20	mV
Power		Contact <a href="mailto:ip@cosmiccircuits.com">ip@cosmiccircuits.com</a>			mW
Area		Contact <a href="mailto:ip@cosmiccircuits.com">ip@cosmiccircuits.com</a>			mm <sup>2</sup>
Process		TSMC 130nm LP 6LM			
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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