

IDT TIMING LEADERSHIP

- World leader in silicon timing
- Largest portfolio of devices with differential levels: LVPECL, LVDS, HCSSL, HSTL, CML
- Specialize in very low jitter for wireless infrastructure, SDH/SONET, ethernet, PCIe®, storage, instrumentation and phase-noise sensitive systems
- Largest portfolio of devices with mixed I/Os, voltage levels and frequencies
- Established designs with major communication equipment manufacturers

IDT provides a broad range of high-performance mixed-signal semiconductor solutions that optimize our customers' applications in key markets.

These products are part of a portfolio specifically designed with ultra-low phase noise performance and faster edge rates in mind. This makes them ideal for meeting the stringent timing requirements for the latest FPGAs used in communications, data center and industrial applications. IDT's broad portfolio of timing devices can satisfy timing budget requirements when designing around an FPGA. This is just another reason why IDT consistently delivers extraordinary value to its customers.

Synthesizers

IDT's synthesizers are industry-leading, stand-alone devices that replace crystal and SAW oscillators in high-end applications. Part of our flagship offering, these devices employ a simple, low-cost fundamental mode crystal as the low frequency reference which enables the devices to synthesize a high-quality, low-jitter clock signal with performance levels reaching <100 fs of RMS phase jitter and output frequencies >1 GHz. Versions offering the flexibility of up to 9 independent outputs, with 12 outputs total round off this versatile offering.

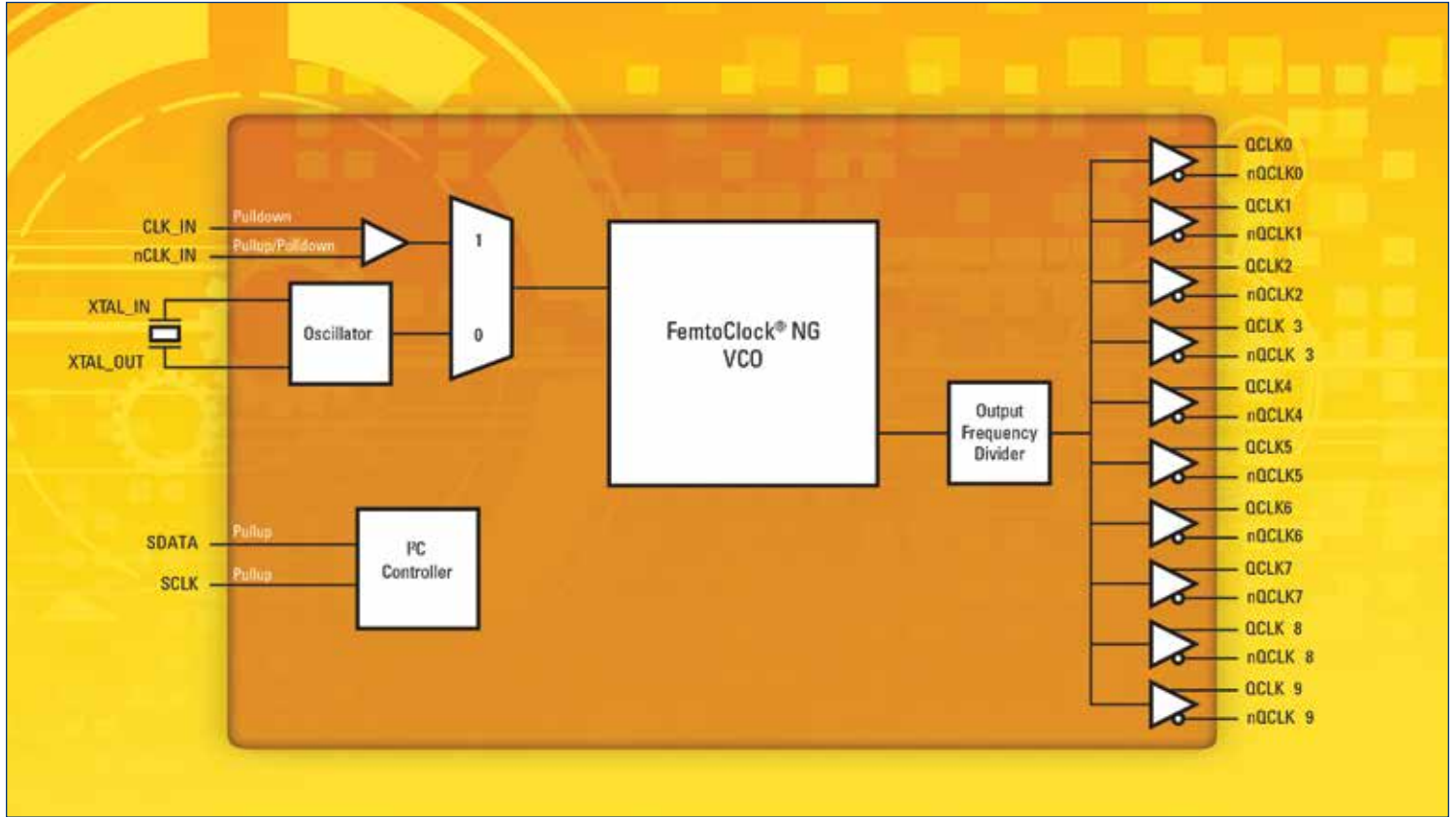
Part Number	RMS Phase Jitter (typ)	Tr/Tf (max)	Inputs	Input Freq (MHz)	Outputs	Output Type	Output Voltage (V)	Output Frequency (MHz)
8T49NS010	84 fs	130 ps	XTAL or REF	10 - 70	10	LVPECL	3.3	100 - 2500
8T49N00X	228 fs	400 ps	XTAL or REF	10 - 312.5	4, 6, 8	LVPECL or LVDS	2.5, 3.3	15.16 - 1250
8T49N1012	350 fs	250 ps (LVDS)	XTAL or REF	10 - 600	12	LVDS, LVPECL, HCSSL, LVCMOS	3.3, 2.5	.008 - 1000

Jitter Attenuators

IDT's family of universal frequency translator timing devices offer translations from virtually any input frequency to any output frequency, and feature eight independently-programmable clocking outputs with the flexibility to generate eight different frequencies within up to four frequency domains. The devices deliver reliable, solid jitter performance in many different applications and provide jitter attenuation and consistent phase noise performance at any loop bandwidth setting.

Part Number	RMS Phase Jitter (typ)	Tr/Tf (max)	Inputs	Input Freq (MHz)	Outputs	Output Type	Output Voltage (V)	Output Frequency (MHz)
8T49N285	< 300 fs	400 ps (LVDS)	XTAL or REF (2)	.008 - 875	8	LVDS, LVPECL, HCSSL, LVCMOS	3.3, 2.5	.008 - 1000
8T49N286	< 300 fs	400 ps (LVDS)	XTAL or REF (4)	.008 - 875	8	LVDS, LVPECL, HCSSL, LVCMOS	3.3, 2.5	.008 - 1000
8T49N287	< 300 fs	400 ps (LVDS)	XTAL or REF (2)	.008 - 875	8	LVDS, LVPECL, HCSSL, LVCMOS	3.3, 2.5	.008 - 1000
8T49N241	< 350 fs	350 ps	XTAL or REF (2)	.008 - 875	4	LVDS, LVPECL, HCSSL, LVCMOS	3.3, 2.5	.008 - 1000
8T49N242	< 350 fs	350 ps	XTAL or REF (2)	.008 - 875	4	LVDS, LVPECL, HCSSL, LVCMOS	3.3, 2.5	.008 - 1000

8T49NS010 BLOCK DIAGRAM



Fanout Buffers

IDT offers a complete family of low additive phase jitter buffers designed for the most sensitive applications today. These buffers offer versions with up to 12 outputs and additive phase jitter as low as 30 fs! For applications where cost sensitivity and high performance are key, look to IDT's portfolio of RF buffers.

Series	RMS Additive Phase Jitter (max)	Tr/Tf (max)	Inputs	Input Frequency Range (MHz)	Outputs	Output Type	Output Voltage (V)	Output Frequency Range (MHz)
8SLVP	100 fs	200 ps	up to 2	up to 2000	2, 4, 6, 8	LVPECL	3.3, 2.5	up to 2000
8SLVD	100 fs	300 ps	up to 2	up to 2000	2, 4, 6, 8	LVDS	3.3, 2.5	up to 2000
8P34S	100 fs	400 ps	up to 2	1200	2, 4, 6, 8, 12	LVDS	3.3, 2.5	1200
8T39S	250 fs	165 ps	XTAL or REF (2)	up to 2000 LVPECL, LVDS	4, 6, 8, 10	LVDS, LVPECL, HCSL, LVCMOS	3.3, 2.5	up to 2000 LVPECL, LVDS

To learn more about IDT's reference clocks for Fast Edge Rate FPGAs visit IDT.com/go/timing