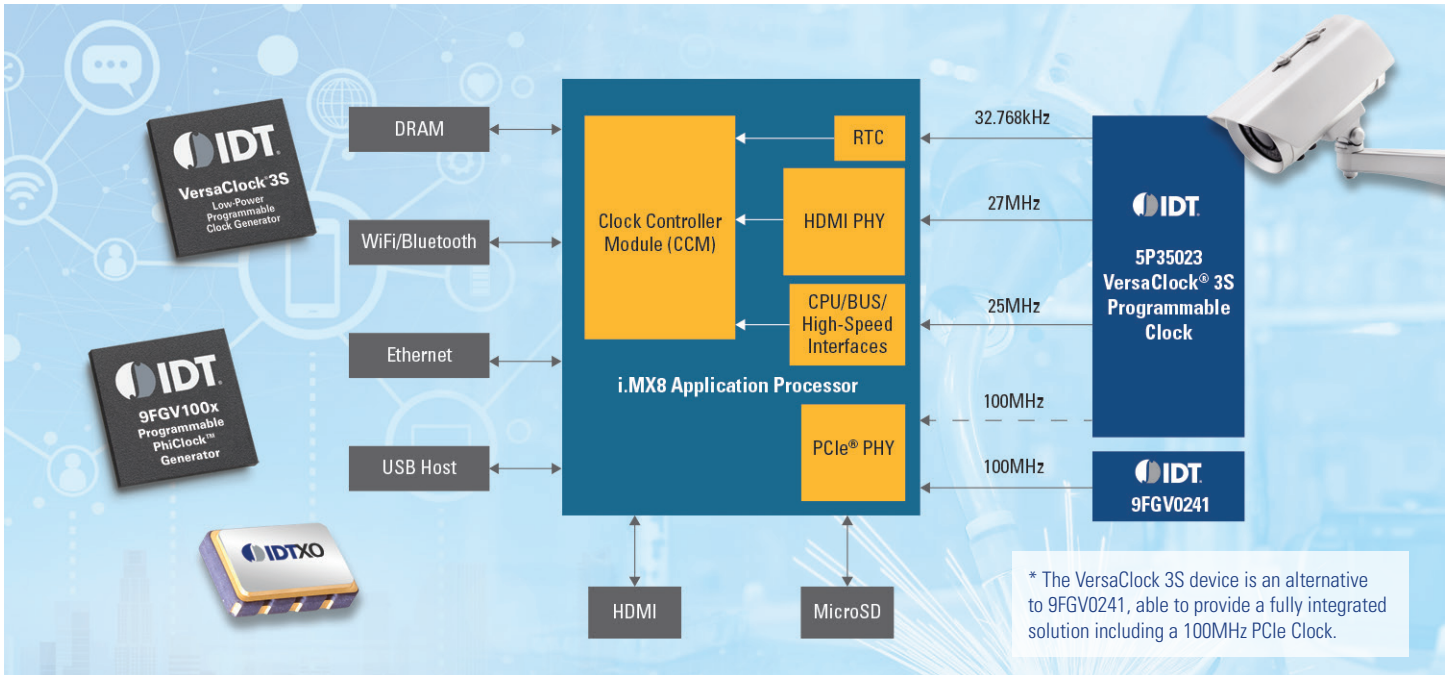
Timing Products for NXP i.MX Applications Processors



IDT's VersaClock® 3S family of programmable clock generators simplify system design by replacing multiple discrete timing components. This reduces both bill of materials (BOM) and board space, lowering system design costs. These devices offer a combination of low power consumption, flexibility and performance and are the perfect clocking solution to supply multiple external reference clocks to the NXP i.MX family of processors.

IDT's PCIe® clock family offer the ideal solution to support the PCIe interface between NXP i.MX processor and peripheral devices. Compliant to PCIe Gen1 to Gen4 standards, IDT's PCIe clocks provide an easy-to-use and reliable PCIe clocking solution for i.MX systems.

IDT's XL and XU crystal oscillators are available in HCMOS, LVPECL, LVDS, and HCSL outputs. The XU and XL families have 300fs and 750fs typical. RMS phase jitter (12 kHz to 20 MHz), respectively. Devices are offered with frequency stability options of ± 20ppm, ± 25ppm, ± 50ppm, or ± 100ppm and fast lead times for custom frequencies from 16 kHz to 1.5 GHz.

IDT ADVANTAGES

- Reduced part count, board space, BOM cost, and short lead times
- High performance and low jitter
- Power saving mode minimizes overall power consumption
- Flexibility and programmability supported by IDT's Timing Commander™ GUI
- PCI Express® Gen 1/2/3/4 and Spread Spectrum clocking supported

TARGET MARKETS AND APPLICATIONS

- Auto Infotainment
- Embedded Consumer
- Industrial/Robotics
- Audio/Video/Voice
- Security
- Surveillance
- Healthcare
- Networking
- Advanced Graphics, Performance and Virtualization

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VersaClock® 3S Programmable Clock Family[1]						
Part Number	**Phase Jitter**	**Frequency Range**	**# of Outputs**	**Output Type**	**VDD (V)**	**Package**
5L35021	1.5 ps RMS (12 k to 20 M)	1 to 125 MHz	2 Pairs[2]+ 1 CMOS	LP-HCSL, LVCMOS, AC-LVPECL, AC-LVDS, AC-CML	1.8	3 x 3 mm QFN
5L35023	PCIe Gen 1/2/3 PCIe Gen 4 (non-SSC)		2 Pairs[2] + 3 CMOS			4 x 4 mm QFN
5P35021		CMOS: 1 to 160 MHz Differential: 1 to 500 MHz	2 Pairs[2] + 1 CMOS	LP-HCSL, LVCMOS, LVDS, LVPECL, AC-CML	3.3 Core 1.8 to 3.3 I/O	3 x 3 mm QFN
5P35023†			2 Pairs[2]+ 3 CMOS			4 x 4 mm QFN
5X35023						

Very-Low-Power PCI Express® Gen 1/2/3/4 Clock Generators[1]						
Part Number	**Phase Jitter**	**Frequency Range**	**# of PCIe Outputs**	**Output Type**	**VDD (V)**	**Package**
9FGV0241	PCIe Gen 1/2/3/4 Common Clock and Independent Reference (SRNS, SRIS)	25Mhz REF 100MHz PCIe	2	LP-HCSL, AC-LVDS[3], AC-CML[3], AC-LVPECL[3]	1.8	4 x 4 mm QFN
9FGV0441			4			5 x 5 mm QFN
9FGV0641			6			5 x 5 mm QFN
9FGV0841			8			6 x 6 mm QFN

Low-Power PCI Express Gen 1/2/3/4 Clock Generators[1]						
Part Number	**Phase Jitter**	**Frequency Range**	**# of PCIe Outputs**	**Output Type**	**VDD (V)**	**Package**
9FGL0241	PCIe Gen 1/2/3/4 Common Clock and Independent Reference (SRNS, SRIS)	25Mhz REF 100MHz PCIe	2	LP-HCSL, AC-LVDS[3], AC-CML[3], AC-LVPECL[3]	3.3	4 x 4 mm QFN
9FGL0441			4			5 x 5 mm QFN
9FGL0641			6			5 x 5 mm QFN
9FGL0841			8			6 x 6 mm QFN

High-Performance, Low-Power Crystal Oscillators (XO)[1]						
Part Number	**Phase Jitter**	**Minimum Frequency**	**Maximum Frequency**	**Output Type**	**VDD (V)**	**Package**
XU-series XO	<400fs (12 k to 20 M)	0.016MHz	1500MHz	LVDS, LVPECL, HCSL, HCMOS	1.8 to 3.3	5032, 7050
XL-series XO	<1ps (12 k to 20 M)	0.75MHz	1350MHz	LVDS, LVPECL, HCMOS	2.5 to 3.3	3225, 5032, 7050

[1]NXP i.MX applications processor family includes i.MX 6, i.MX 7, i.MX 8, i.MX RT, i.MX28 series.

[2]Configurable to differential (any frequency in range including PCIe) or CMOS.

[3]AC prefix indicates that these logic levels are easily obtained with AC-coupling. See IDT Application Note AN-891 for more details.

To request samples, download documentation or learn more visit: **idt.com/timing**