

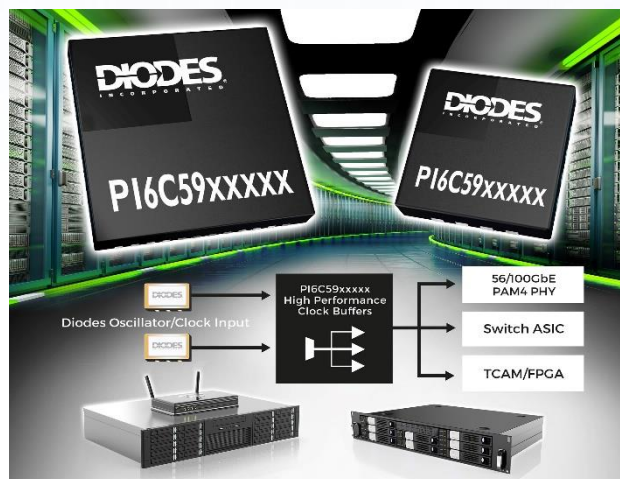
High-Performance Clock Buffers for Networking Applications

The PI6C59xxxxxx series is a family of 1.5GHz to 6GHz clock buffers capable of 2, 4, 6, 12, and 16 outputs.

The devices use a reference clock input to generate multiple copies of the same frequency outputs, which makes the devices cost effective when designs require multiple copies of a frequency and maintain a synchronous clock throughout.

These fan-out buffers also have very-low additive jitter of ~10fs, which provides ample margin for the latest high-speed designs with a total jitter budget of 150fs or below.

This family is suitable for PAM4 Ethernet switches, routers, and datacenter applications. The devices can also be used in industrial and embedded applications that support high port counts.



The Diodes Advantage

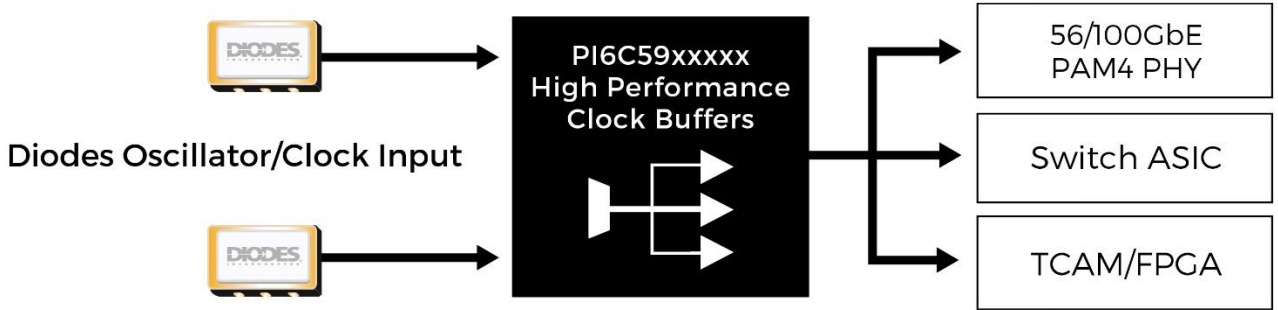
1.5GHz to 6GHz Frequency Support with Multiple Outputs and Ultra-Low Additive Jitter

- **Multiple Output Combination**
2, 4, 6, 12, and 16 outputs for design optimization
- **Ultra-Low Additive Jitter of <0.01ps**
Provides margin for high-performance clocking requirements
- **All Output Combinations Available (LVPECL, LVDS, CML)**
Fits design's chipset input clock requirements
- **2.5V or 3.3V Power Supply**
Supports common power rails
- **Compact QFN Packages**
Optimized for board savings

Applications

- Switches
- Routers
- Datacenter
- Industrial
- Embedded Infrastructure

Typical Application



Product Portfolio

Part Number	Voltage Support (V)	Output Type	Package	Temp Range	Quantity per Reel
PI6C5946002	2.5, 3.3	CML	16 TQFN (3x3mm)	-40 to +85°C	3,500
PI6C5916004		LVPECL	16 TQFN (3x3mm)		
PI6C5913004		LVPECL	16 TQFN (3x3mm)		
PI6C5913004-01		LVPECL	16 TQFN (3x3mm)		
PI6C5922504		LVDS	16 TQFN (3x3mm)		
PI6C5946004		CML	16 TQFN (3x3mm)		
PI6C59S6005		Selectable	24 TQFN (4x4mm)		
PI6C5912006		LVPECL	32 TQFN (5x5mm)		
PI6C5912012		LVPECL	40 TQFN (6x6mm)		
PI6C5921512		LVDS	40 TQFN (6x6mm)		
PI6C5912016		LVPECL	48 TQFN (7x7mm)		
PI6C5921516		LVDS	48 TQFN (7x7mm)		
PI6C5912016-01		LVPECL	48 TQFP (9x9mm)		