Quick Presentation:

High-Performance 4-PLL Clock Generator

Cypress Delivers Industry-Leading Flexible Timing Solutions for Next-Generation Consumer Devices

Product Overview

Applications

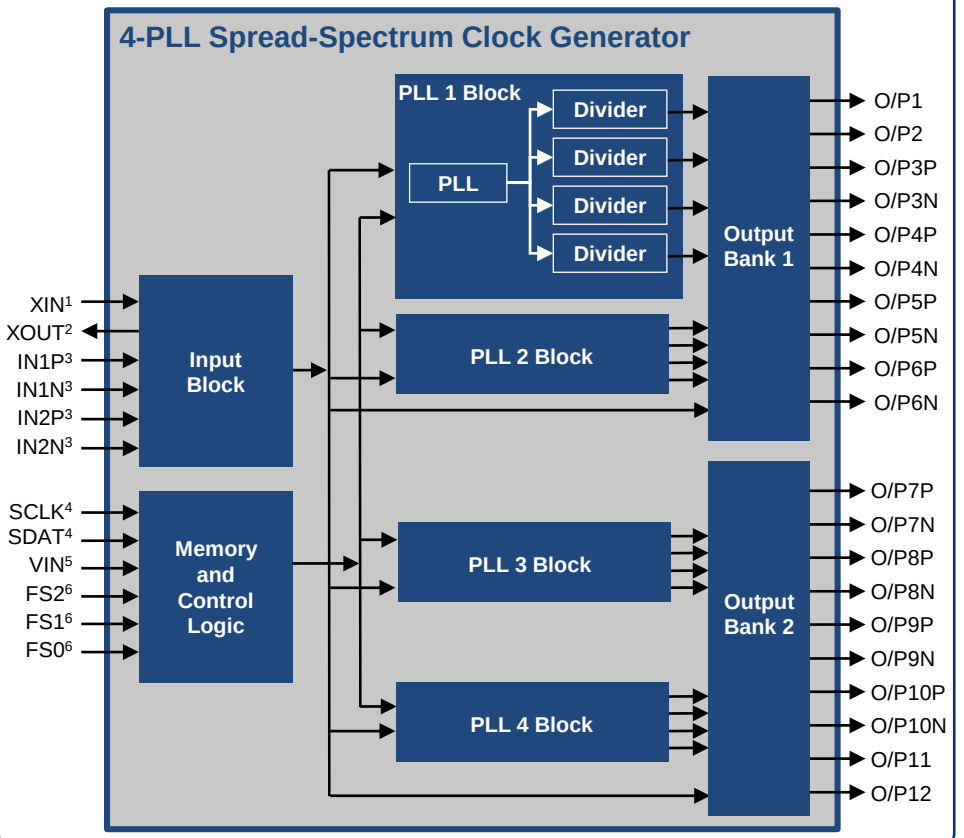
Multifunction printers
Digital TVs
Blu-ray recorders
Home gateways
Femtocells
Routers and switches

Features

High frequency: 700-MHz differential, 250-MHz single-ended
Pin select and I²C programming
Twelve outputs:
- Eight configurable as differential or single-ended
- Four single-ended

Reference clock support for PCIe 3.0, SATA 2.0 and 10 GbE
RMS Phase Jitter < 0.7 ps (typical)
Additional features:
- Configurable as zero or non-zero delay buffer
- Glitch-free frequency switching
- Frequency Select
- Phase alignment of outputs
- Early/late phase clocks
- PLL cascading
- Voltage Controlled Frequency Synthesis (VCFS)

Block Diagram



Collateral

Datasheet, Application Notes: CY27410

Availability

Sampling: Now
Production: Now

[1] Crystal input
[2] Crystal output
[3] Reference clock inputs
[4] Serial port
[5] Voltage input pin for VCFS
[6] Frequency select inputs

Cypress 4-PLL Clock Generator vs. Competition's

Feature	CY274xx	5V49EE902	Si5338
Max. O/P Freq. (single-ended)	**250 MHz**	200 MHz	200 MHz
Max. O/P Freq. (differential)	**700 MHz**	500 MHz	**700 MHz**
Cycle-to-Cycle Jitter	**30 ps**	200 ps	**30 ps**
RMS Phase Jitter	**0.7 ps**	3 ps	**0.7 ps**
Number of Outputs	**12 Single-Ended, 8 Differential**	9 Single-Ended, 2 Differential	8 Single-Ended, 4 Differential
Current per PLL	**20 mA**	22.5 mA	45 mA
Standards	**PCIe 3.0**, SATA 2.0, 10 GbE, USB 3.0	PCIe 1.0, SATA 2.0, 10 GbE, USB 3.0	**PCIe 3.0**, SATA 2.0, 10 GbE, USB 3.0
VDD	1.8, 2.5, 3.3 V	3.3 V	1.8, 2.5, 3.3 V
Programmability	I^2C	No	I^2C
SS (center)	Center: ±0.225% to ±2.50%	Center: ±0.5%	**Center: ±0.2% to ±5%**
SS (down)	**Down: -0.25% to -5.0%**	Down: -0.5%	Down: -0.5%
Temperature Grade	**Industrial and AEQ-100 (-40ºC to +85ºC)**	Industrial (-40ºC to +85ºC)	Industrial (-40ºC to +85ºC)

Cypress 4-PLL Clock Generator vs. Competition's

Feature	CY274xx	5V49EE902	Si5338
VCFS	**Yes**	No	No
Cascading PLL	**Yes**	No	No
Zero Delay Buffer Mode	**Yes**	No	**Yes**
Non-Zero Delay Buffer Mode	**Yes**	No	No
Early/Late Phase Clock	**Yes**	No	**Yes**
Glitch-Free Outputs	**Yes**	**Yes**	No
Frequency Select	**Yes**	**Yes**	No
On-Board Programming	**Yes**	No	**Yes**