



Application Note AN6041

Spread Spectrum Clock Generator: $\pm 0.5\%$ Center Spread

This document describes the programmed values and functions of CY22800FXC-016A. Refer to the CY22800 data sheet for detailed product description and specifications.

Features

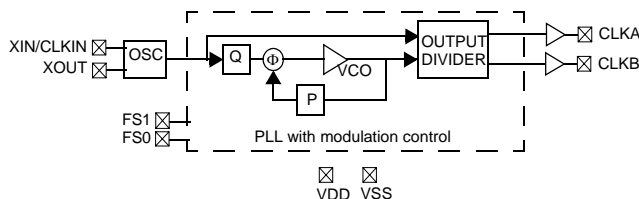
- Wide input and output frequency ranges
- Low cycle-to-cycle jitter

Table 1. Device Specifications

| Code Number | Input Frequency Range (MHz) | Output Frequency Range (MHz) | Number of Outputs | Special Function |
|-----------------|-----------------------------------|------------------------------|-------------------|---------------------------|
| CY22800FXC-016A | 25–100 (CLKIN) 25–30 (Crystal) | 25 MHz–100 MHz | 2 | $\pm 0.5\%$ Center Spread |

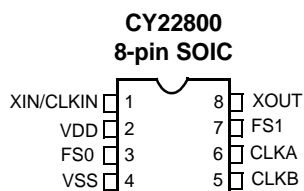
Architecture

Figure 1. Logic Block Diagram



Pinouts

Figure 2. Pin Configuration



Frequency

Table 2. Frequency Table

| FS[1:0] | CLKIN (MHz) | Xtal (MHz) | CLKA | CLKB |
|---------|-------------|------------|-------------------------|----------------------------|
| 00 | 25–100 | 25–30 | 1xREFIN (Spread ON) | REFOUT (Spread OFF) |
| 01 | 25–100 | 25–30 | 1xREFIN (Spread OFF) | REFOUT (Spread OFF) |
| 10 | 25–100 | 25–30 | 1xREFIN (Spread ON) | 1xREFIN (Spread ON) |
| 11 | 25–100 | 25–30 | 1xREFIN (Spread ON) | (1xREFIN)/2 (Spread ON) |

AC/DC Parameters

Table 3. AC/DC Parameters

| Parameter ^[1] | Description | Typical Value | Unit |
|--------------------------|-----------------------|-------------------|------|
| t_1 | Cycle-to-cycle Jitter | 74 ^[2] | ps |
| I_{DD} | Current Consumption | 18 ^[3] | mA |

Ordering Information

Table 4. Ordering Information

| Part Number ^[4] | Package Type | Product Flow |
|----------------------------|------------------------|-----------------------|
| CY22800FXC-016A | 8-pin SOIC - Lead Free | Commercial, 0 to 70°C |

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Notes

1. Refer to the CY22800 generic data sheet for a complete list of AC/DC parameters.
2. Measurements made on CLKA under nominal conditions (VDD = 3.3V, room temperature, 15 pF load cap.) with FS[1:0] = 10.
3. Measurements made under nominal conditions (VDD = 3.3V, room temperature, no load) with FS[1:0] = 11.
4. When ordering from a distributor, use CY22800FXC with the specific code number (016A).

July 13, 2006

Revision **

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