



## Application Note AN6038

### Clock Multiplier for Consumer & Communication Applications

This document describes the programmed values and functions of CY22800FXC-013A. Refer to the CY22800 data sheet for detailed product description and specifications.

#### Features

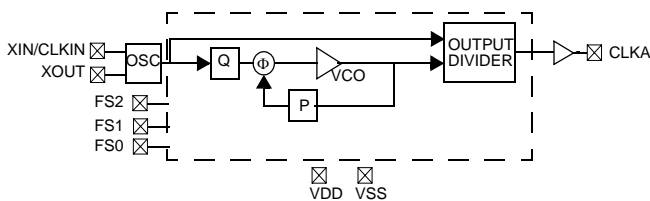
- Wide input and output frequency ranges
- Low cycle-to-cycle jitter

Table 1. Device Specifications

| Code Number     | Input Frequency Range (MHz) | Output Frequency Range (MHz) | Number of Outputs | Special Function |
|-----------------|-----------------------------|------------------------------|-------------------|------------------|
| CY22800FXC-013A | See Frequency Table         | See Frequency Table          | 1                 | Clock Multiplier |

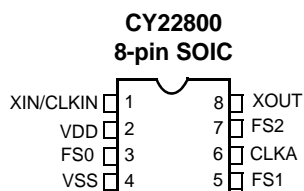
#### Architecture

Figure 1. Logic Block Diagram



#### Pinouts

Figure 2. Pin Configuration



#### Frequency

Table 2. Frequency Table

| FS[2:0] | CLKIN (MHz) | CLKA (MHz) | CLKIN/Xtal Range (MHz) | Multiplying Factor | CLKA Range (MHz) |
|---------|-------------|------------|------------------------|--------------------|------------------|
| 000     | 27          | 33.33      | 9–30                   | 1.234567901        | 11.1–37          |
| 001     | 27          | 66.66      | 8–27                   | 2.469135802        | 19.7–66.6        |
| 010     | 27          | 50         | 9–30                   | 1.851851852        | 16.6–55.5        |
| 011     | 27          | 75         | 9–30                   | 2.777777778        | 25–83.3          |
| 100     | 27          | 80         | 9–30                   | 2.962962963        | 26.6–88.8        |
| 101     | 27          | 100        | 9–30                   | 3.703703704        | 33.3–111.1       |
| 110     | 27          | 133.33     | 8–27                   | 4.938271605        | 39.5–133.3       |
| 111     | OFF         | OFF        | OFF                    | OFF                | OFF              |

#### AC/DC Parameters

Table 3. AC/DC Parameters

| Parameter <sup>[1]</sup> | Description           | Typical Value     | Unit |
|--------------------------|-----------------------|-------------------|------|
| t <sub>1</sub>           | Cycle-to-cycle Jitter | 85 <sup>[2]</sup> | ps   |
| t <sub>2</sub>           | Period Jitter         | 85 <sup>[2]</sup> | ps   |
| I <sub>DD</sub>          | Current Consumption   | 20 <sup>[3]</sup> | mA   |

#### Ordering Information

Table 4. Ordering Information

| Part Number <sup>[4]</sup> | Package Type           | Product Flow          |
|----------------------------|------------------------|-----------------------|
| CY22800FXC-013A            | 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 under nominal conditions (VDD = 3.3V, room temperature, 15 pF load cap.) with FS[2:0] = 001.
3. Measurements made under nominal conditions (VDD = 3.3V, room temperature, no load) with FS[2:0] = 000.
4. When ordering from a distributor, use CY22800FXC with the specific code number (013A).

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Revision \*\*

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