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## Product Reference Information

**Part Number:** CY2XP22ZXI  
**Manufacturer:** Cypress Semiconductor Corp  
**Package:** 8-TSSOP (0.173" , 4.40mm Width)  
**Availability:** Please confirm with sales

### Product Page:

<https://antrexco.com/product/details/cypress-semiconductor-corp/cy2xp22zxi.html>

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### Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

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# Crystal to LVPECL Clock Generator

## Features

- One LVPECL output pair
- Selectable frequency multiplication:  $\times 2.5$  or  $\times 5$
- External crystal frequency: 25.0 MHz
- Output frequency: 62.5 MHz or 125 MHz
- Low RMS phase jitter at 125 MHz, using 25 MHz crystal (1.875 MHz to 20 MHz): 0.4 ps (typical)
- Phase noise at 125 MHz (typical):

| Offset  | Noise Power |
|---------|-------------|
| 1 kHz   | -117 dBc/Hz |
| 10 kHz  | -126 dBc/Hz |
| 100 kHz | -131 dBc/Hz |
| 1 MHz   | -131 dBc/Hz |

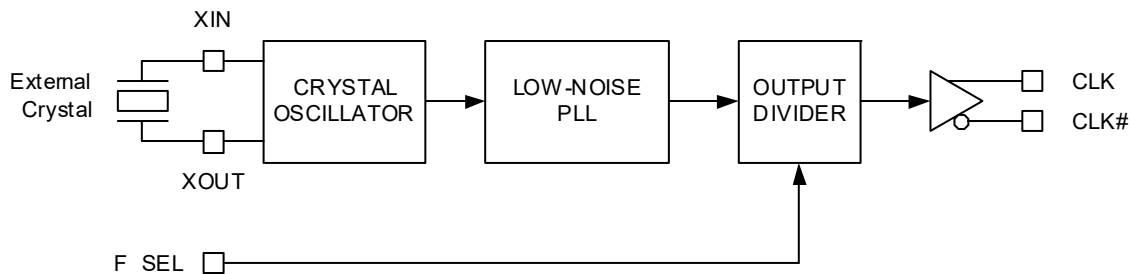
- Pb-free 8-pin TSSOP package
- Supply voltage: 3.3 V or 2.5 V
- Commercial and Industrial temperature range

## Functional Description

The CY2XP22 is a PLL (Phase Locked Loop) based high performance clock generator that uses an external reference crystal. It is specifically targeted at FibreChannel and Gigabit Ethernet applications. It produces a selectable output frequency that is 2.5 or 5 times the crystal frequency. With a 25 MHz crystal, the user can select either a 62.5 MHz or 125 MHz output. It uses Cypress's low noise VCO technology to achieve less than 1 ps typical RMS phase jitter. The CY2XP22 has a crystal oscillator interface input and one LVPECL output pair.

For a complete list of related documentation, [click here](#).

## Logic Block Diagram



## Contents

|                                                 |          |                                                      |           |
|-------------------------------------------------|----------|------------------------------------------------------|-----------|
| <b>Pinouts</b> .....                            | <b>3</b> | <b>Ordering Information</b> .....                    | <b>10</b> |
| <b>Pin Definitions</b> .....                    | <b>3</b> | Ordering Code Definitions .....                      | 10        |
| <b>Frequency Table</b> .....                    | <b>3</b> | <b>Package Diagram</b> .....                         | <b>11</b> |
| <b>Application Information</b> .....            | <b>4</b> | <b>Acronyms</b> .....                                | <b>12</b> |
| Power Supply Filtering Techniques .....         | 4        | <b>Document Conventions</b> .....                    | <b>12</b> |
| Termination for LVPECL Output .....             | 4        | Units of Measure .....                               | 12        |
| Crystal Interface .....                         | 4        | <b>Document History Page</b> .....                   | <b>13</b> |
| <b>Absolute Maximum Conditions</b> .....        | <b>5</b> | <b>Sales, Solutions, and Legal Information</b> ..... | <b>15</b> |
| <b>Operating Conditions</b> .....               | <b>5</b> | Worldwide Sales and Design Support .....             | 15        |
| <b>DC Electrical Characteristics</b> .....      | <b>6</b> | Products .....                                       | 15        |
| <b>AC Electrical Characteristics</b> .....      | <b>7</b> | PSoC® Solutions .....                                | 15        |
| <b>Recommended Crystal Specifications</b> ..... | <b>7</b> | Cypress Developer Community .....                    | 15        |
| <b>Parameter Measurements</b> .....             | <b>8</b> | Technical Support .....                              | 15        |

## Pinouts

Figure 1. 8-pin TSSOP pinout



## Pin Definitions

8-pin TSSOP

| Pin Number | Pin Name  | I/O Type              | Description                           |
|------------|-----------|-----------------------|---------------------------------------|
| 1, 8       | VDD       | Power                 | 3.3 V or 2.5 V power supply           |
| 2          | VSS       | Power                 | Ground                                |
| 3, 4       | XOUT, XIN | XTAL output and input | Parallel resonant crystal interface   |
| 5          | F_SEL     | CMOS input            | Frequency Select: see Frequency Table |
| 6, 7       | CLK#, CLK | LVPECL output         | Differential clock output             |

## Frequency Table

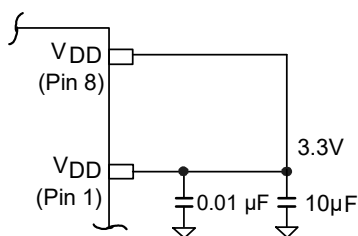
| Inputs                  |       | PLL Multiplier Value | Output Frequency (MHz) |
|-------------------------|-------|----------------------|------------------------|
| Crystal Frequency (MHz) | F_SEL |                      |                        |
| 25                      | 0     | 5                    | 125                    |
|                         | 1     | 2.5                  | 62.5                   |

## Application Information

### Power Supply Filtering Techniques

As in any high speed analog circuitry, noise at the power supply pins can degrade performance. To achieve optimum jitter performance, use good power supply isolation practices. Figure 2 illustrates a typical filtering scheme. Since all the current flows through pin 1, the resistance and inductance between this pin and the supply is minimized. A 0.01 or 0.1  $\mu\text{F}$  ceramic chip capacitor is also located close to this pin to provide a short and low impedance AC path to ground. A 1 to 10  $\mu\text{F}$  ceramic or tantalum capacitor is located in the general vicinity of this device and may be shared with other devices.

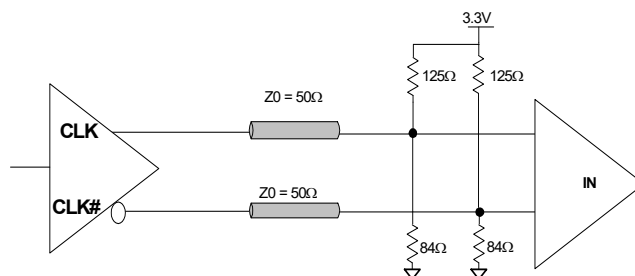
**Figure 2. Power Supply Filtering**



### Termination for LVPECL Output

The CY2XP22 implements its LVPECL driver with a current steering design. For proper operation, it requires a 50 ohm dc termination on each of the two output signals. For 3.3 V operation, this data sheet specifies output levels for termination to  $V_{DD} - 2.0\text{ V}$ . This same termination voltage can also be used for  $V_{DD} = 2.5\text{ V}$  operation, or it can be terminated to  $V_{DD} - 1.5\text{ V}$ . Note that it is also possible to terminate with 50 ohms to ground ( $V_{SS}$ ), but the high and low signal levels differ from the data sheet values. Termination resistors are best located close to the destination device. To avoid reflections, trace characteristic impedance ( $Z_0$ ) should match the termination impedance. Figure 3 shows a standard termination scheme.

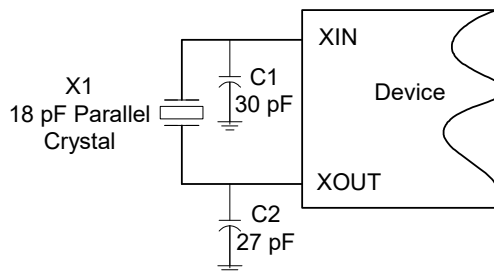
**Figure 3. LVPECL Output Termination**



### Crystal Interface

The CY2XP22 is characterized with 18 pF parallel resonant crystals. The capacitor values shown in Figure 4 are determined using a 25 MHz 18 pF parallel resonant crystal and are chosen to minimize the ppm error. Note that the optimal values for C1 and C2 depend on the parasitic trace capacitance and are thus layout dependent.

**Figure 4. Crystal Input Interface**



## Absolute Maximum Conditions

| Parameter                      | Description                             | Conditions                  | Min  | Max                   | Unit |
|--------------------------------|-----------------------------------------|-----------------------------|------|-----------------------|------|
| V <sub>DD</sub>                | Supply Voltage                          |                             | −0.5 | 4.4                   | V    |
| V <sub>IN</sub> <sup>[1]</sup> | Input Voltage, DC                       | Relative to V <sub>SS</sub> | −0.5 | V <sub>DD</sub> + 0.5 | V    |
| T <sub>S</sub>                 | Temperature, Storage                    | Non operating               | −65  | 150                   | °C   |
| T <sub>J</sub>                 | Temperature, Junction                   |                             | −    | 135                   | °C   |
| ESD <sub>HBM</sub>             | ESD Protection, Human Body Model        | JEDEC STD 22-A114-B         | 2000 | −                     | V    |
| UL−94                          | Flammability Rating                     | At 1/8 in.                  | V−0  |                       |      |
| Θ <sub>JA</sub> <sup>[2]</sup> | Thermal Resistance, Junction to Ambient | 0 m/s airflow               | 100  |                       | °C/W |
|                                |                                         | 1 m/s airflow               | 91   |                       |      |
|                                |                                         | 2.5 m/s airflow             | 87   |                       |      |

## Operating Conditions

| Parameter | Description                                                                                         | Min   | Max   | Unit |
|-----------|-----------------------------------------------------------------------------------------------------|-------|-------|------|
| $V_{DD}$  | 3.3 V Supply Voltage                                                                                | 3.135 | 3.465 | V    |
|           | 2.5 V Supply Voltage                                                                                | 2.375 | 2.625 | V    |
| $T_A$     | Ambient Temperature, Commercial                                                                     | 0     | 70    | °C   |
|           | Ambient Temperature, Industrial                                                                     | -40   | 85    | °C   |
| $T_{PU}$  | Power up time for all $V_{DD}$ to reach minimum specified voltage (ensure power ramps is monotonic) | 0.05  | 500   | ms   |

### Notes

1. The voltage on any input or IO pin cannot exceed the power pin during power up.
2. Simulated using Apache Sentinel TI software. The board is derived from the JEDEC multilayer standard. It measures 76 x 114 x 1.6 mm and has 4-layers of copper (2/1/1/2 oz.). The internal layers are 100% copper planes, while the top and bottom layers have 50% metalization. No vias are included in the model.

## DC Electrical Characteristics

| Parameter       | Description                                                 | Test Conditions                                                                                | Min                 | Typ | Max                 | Unit          |
|-----------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|---------------|
| $I_{DD}$        | Operating Supply Current with output unterminated           | $V_{DD} = 3.465\text{ V}$ , $F_{OUT} = 125\text{ MHz}$ , output unterminated                   | –                   | –   | 125                 | mA            |
|                 |                                                             | $V_{DD} = 2.625\text{ V}$ , $F_{OUT} = 125\text{ MHz}$ , output unterminated                   | –                   | –   | 120                 | mA            |
| $I_{DDT}$       | Operating Supply Current with output terminated             | $V_{DD} = 3.465\text{ V}$ , $F_{OUT} = 125\text{ MHz}$ , output terminated                     | –                   | –   | 150                 | mA            |
|                 |                                                             | $V_{DD} = 2.625\text{ V}$ , $F_{OUT} = 125\text{ MHz}$ , output terminated                     | –                   | –   | 145                 | mA            |
| $V_{OH}$        | LVPECL Output High Voltage                                  | $V_{DD} = 3.3\text{ V}$ or $2.5\text{ V}$ , $R_{TERM} = 50\ \Omega$ to $V_{DD} - 2.0\text{ V}$ | $V_{DD} - 1.15$     | –   | $V_{DD} - 0.75$     | V             |
| $V_{OL}$        | LVPECL Output Low Voltage                                   | $V_{DD} = 3.3\text{ V}$ or $2.5\text{ V}$ , $R_{TERM} = 50\ \Omega$ to $V_{DD} - 2.0\text{ V}$ | $V_{DD} - 2.0$      | –   | $V_{DD} - 1.625$    | V             |
| $V_{OD1}$       | LVPECL Peak-to-Peak Output Voltage Swing                    | $V_{DD} = 3.3\text{ V}$ or $2.5\text{ V}$ , $R_{TERM} = 50\ \Omega$ to $V_{DD} - 2.0\text{ V}$ | 600                 | –   | 1000                | mV            |
| $V_{OD2}$       | LVPECL Output Voltage Swing ( $V_{OH} - V_{OL}$ )           | $V_{DD} = 2.5\text{ V}$ , $R_{TERM} = 50\ \Omega$ to $V_{DD} - 1.5\text{ V}$                   | 500                 | –   | 1000                | mV            |
| $V_{OCM}$       | LVPECL Output Common Mode Voltage ( $(V_{OH} + V_{OL})/2$ ) | $V_{DD} = 2.5\text{ V}$ , $R_{TERM} = 50\ \Omega$ to $V_{DD} - 1.5\text{ V}$                   | 1.2                 | –   | –                   | V             |
| $V_{IH}$        | Input High Voltage, $F\_SEL$                                |                                                                                                | $0.7 \times V_{DD}$ | –   | $V_{DD} + 0.3$      | V             |
| $V_{IL}$        | Input Low Voltage, $F\_SEL$                                 |                                                                                                | –0.3                | –   | $0.3 \times V_{DD}$ | V             |
| $I_{IH}$        | Input High Current, $F\_SEL$                                | $F\_SEL = V_{DD}$                                                                              | –                   | –   | 115                 | $\mu\text{A}$ |
| $I_{IL}$        | Input Low Current, $F\_SEL$                                 | $F\_SEL = V_{SS}$                                                                              | –50                 | –   | –                   | $\mu\text{A}$ |
| $C_{IN}^{[3]}$  | Input Capacitance, $F\_SEL$                                 |                                                                                                | –                   | 15  | –                   | pF            |
| $C_{INX}^{[3]}$ | Pin Capacitance, XIN & XOUT                                 |                                                                                                | –                   | 4.5 | –                   | pF            |

### Note

3. Not 100% tested, guaranteed by design and characterization.

## AC Electrical Characteristics

| Parameter <sup>[4]</sup>        | Description               | Conditions                                                                                           | Min  | Typ | Max | Unit |
|---------------------------------|---------------------------|------------------------------------------------------------------------------------------------------|------|-----|-----|------|
| F <sub>OUT</sub>                | Output Frequency          |                                                                                                      | 62.5 | –   | 125 | MHz  |
| T <sub>R</sub> , T <sub>F</sub> | Output Rise or Fall Time  | 20% to 80% of full output swing                                                                      | –    | 0.5 | 1.0 | ns   |
| T <sub>Jitter(φ)</sub>          | RMS Phase Jitter (Random) | 125 MHz, (1.875–20 MHz)                                                                              | –    | 0.4 | –   | ps   |
| T <sub>DC</sub>                 | Output Duty Cycle         | Measured at zero crossing point                                                                      | 48   | 50  | 52  | %    |
| T <sub>LOCK</sub>               | Startup Time              | Time for CLK to reach valid frequency measured from the time V <sub>DD</sub> = V <sub>DD(min.)</sub> | –    | –   | 5   | ms   |
| T <sub>LFS</sub>                | Re-lock Time              | Time for CLK to reach valid frequency from F_SEL pin change                                          | –    | –   | 1   | ms   |

## Recommended Crystal Specifications

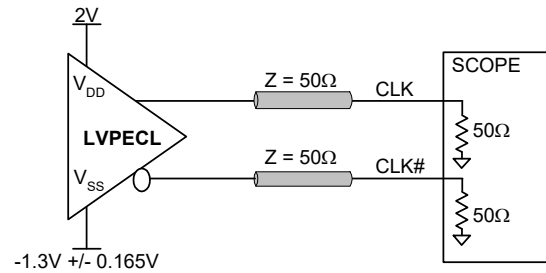
| Parameter <sup>[5]</sup> | Description                  | Min         | Max | Unit |
|--------------------------|------------------------------|-------------|-----|------|
| Mode                     | Mode of Oscillation          | Fundamental |     |      |
| F                        | Frequency                    | 25          | 25  | MHz  |
| ESR                      | Equivalent Series Resistance | –           | 50  | Ω    |
| C <sub>0</sub>           | Shunt Capacitance            | –           | 7   | pF   |

### Notes

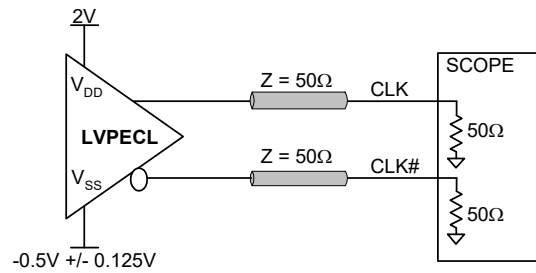
4. Not 100% tested, guaranteed by design and characterization.
5. Characterized using an 18 pF parallel resonant crystal.

## Parameter Measurements

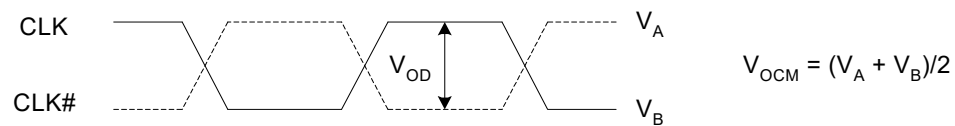
**Figure 5. 3.3 V Output Load AC Test Circuit**



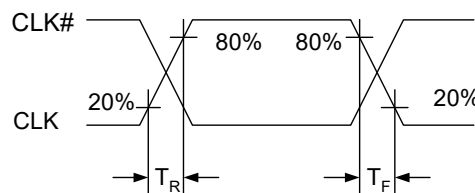
**Figure 6. 2.5 V Output Load AC Test Circuit**



**Figure 7. Output DC Parameters**

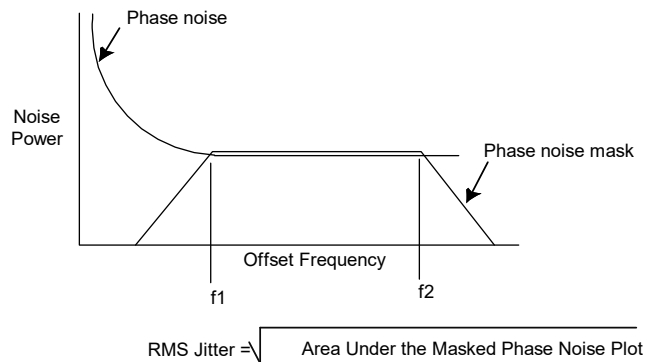


**Figure 8. Output Rise and Fall Time**

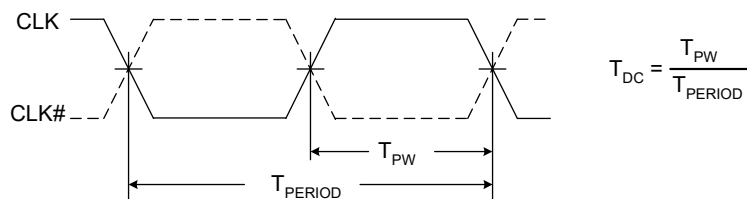


## Parameter Measurements (continued)

**Figure 9. RMS Phase Jitter**



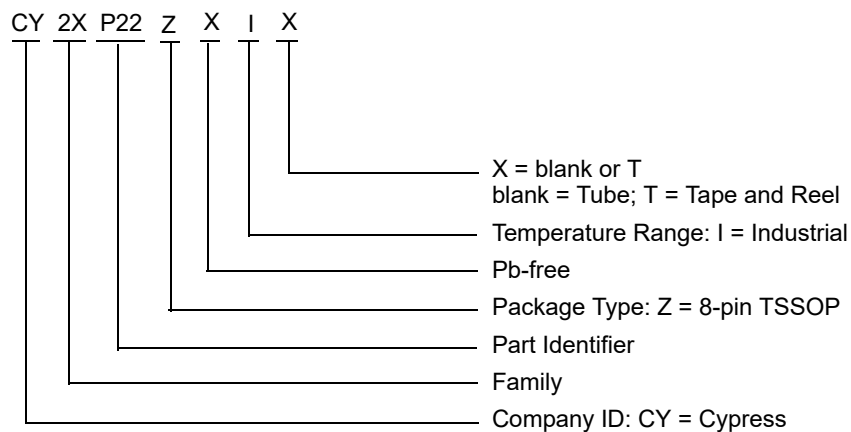
**Figure 10. Output Duty Cycle**



## Ordering Information

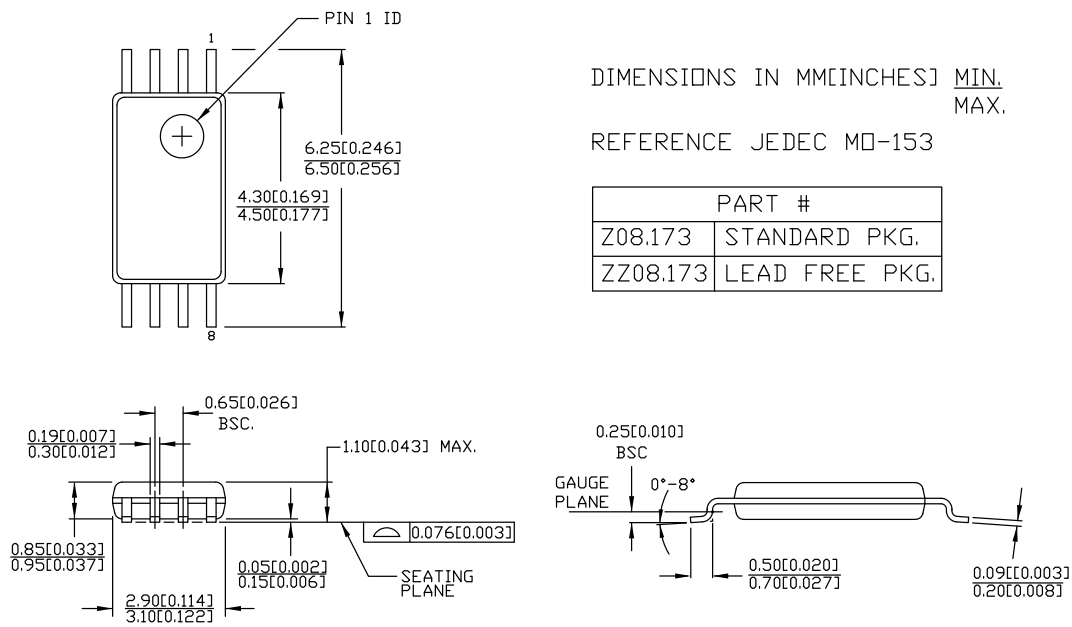
| Part Number | Package Type                | Product Flow                |
|-------------|-----------------------------|-----------------------------|
| CY2XP22ZXI  | 8-pin TSSOP                 | Industrial, -40 °C to 85 °C |
| CY2XP22ZXIT | 8-pin TSSOP – Tape and Reel | Industrial, -40 °C to 85 °C |

## Ordering Code Definitions



## Package Diagram

**Figure 11. 8-pin TSSOP (4.40 mm Body) Package Outline, 51-85093**



51-85093 \*E

## Acronyms

| Acronym | Description                                |
|---------|--------------------------------------------|
| CLKOUT  | Clock Output                               |
| CMOS    | Complementary Metal Oxide Semiconductor    |
| DPM     | Die Pick Map                               |
| EPROM   | Erasable Programmable Read Only Memory     |
| LVDS    | Low-Voltage Differential Signaling         |
| LVPECL  | Low-Voltage Positive Emitter Coupled Logic |
| NTSC    | National Television System Committee       |
| OE      | Output Enable                              |
| PAL     | Phase Alternate Line                       |
| PD      | Power-Down                                 |
| PLL     | Phase Locked Loop                          |
| TTL     | Transistor-Transistor Logic                |

## Document Conventions

### Units of Measure

| Symbol | Unit of Measure             |
|--------|-----------------------------|
| °C     | degree Celsius              |
| kHz    | kilohertz                   |
| kΩ     | kilohm                      |
| MHz    | megahertz                   |
| MΩ     | megaohm                     |
| μA     | microampere                 |
| μs     | microsecond                 |
| μV     | microvolt                   |
| μVrms  | microvolts root-mean-square |
| mA     | milliampere                 |
| mm     | millimeter                  |
| ms     | millisecond                 |
| mV     | millivolt                   |
| nA     | nanoampere                  |
| ns     | nanosecond                  |
| nV     | nanovolt                    |
| Ω      | ohm                         |
| ppm    | parts per million           |
| V      | volt                        |

## Document History Page

| Document Title: CY2XP22, Crystal to LVPECL Clock Generator<br>Document Number: 001-10229 |         |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------|---------|-----------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Revision                                                                                 | ECN     | Orig. of Change | Submission Date | Description of Change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| **                                                                                       | 506262  | RGL             | 09/27/2006      | New data sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| *A                                                                                       | 838060  | RGL             | 03/12/2007      | Changed status from Advance to Preliminary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| *B                                                                                       | 2700242 | KVM / PYRS      | 04/30/2009      | <p>Updated <a href="#">Features</a>:<br/>           Updated details under "Phase Noise at 125 MHz".<br/>           Updated <a href="#">Pinouts</a>:<br/>           Replaced VCCA with VDD.<br/>           Replaced VEE with VSS.<br/>           Replaced VCC with VDD.<br/>           Updated <a href="#">Pin Definitions</a>:<br/>           Replaced VCCA with VDD.<br/>           Replaced VCC with VDD.<br/>           Replaced VEE with VSS.<br/>           Updated details in "I/O Type" and "Description" columns for all pins.<br/>           Updated <a href="#">Frequency Table</a>:<br/>           Added a column "PLL Multiplier Value" and added details in that column.<br/>           Updated <a href="#">Application Information</a>:<br/>           Updated <a href="#">Power Supply Filtering Techniques</a>:<br/>           Updated <a href="#">Figure 2</a>.<br/>           Updated description.<br/>           Removed "Termination for 3.3V LVPECL Output".<br/>           Added "Termination for LVPECL Output".<br/>           Updated <a href="#">Crystal Interface</a>:<br/>           Updated description.<br/>           Updated <a href="#">Absolute Maximum Conditions</a>:<br/>           Replaced V<sub>CC</sub> with V<sub>DD</sub>.<br/>           Changed maximum value of T<sub>J</sub> parameter from 125 °C to 135 °C.<br/>           Added <math>\Theta_{JA}</math> parameter and its details.<br/>           Updated <a href="#">Operating Conditions</a>:<br/>           Replaced V<sub>CC</sub>, V<sub>CCA</sub> with V<sub>DD</sub>.<br/>           Added Industrial Temperature Range corresponding to T<sub>A</sub> parameter.<br/>           Removed I<sub>EE</sub>, C<sub>IN</sub>, R<sub>UP</sub> parameters and their details.<br/>           Removed "Electrical Characteristics for F_SEL".<br/>           Removed "DC Electrical Characteristics for LVPECL".<br/>           Added <a href="#">DC Electrical Characteristics</a>.<br/>           Updated <a href="#">AC Electrical Characteristics</a>:<br/>           Removed Note "Refer to Figure 4 on page 4" and its reference.<br/>           Removed Note "Refer to Figure 2 on page 4" and its reference.<br/>           Removed Note "Refer to Figure 3 on page 4" and its reference.<br/>           Updated details in "Min", "Typ" and "Max" columns corresponding to F<sub>OUT</sub> parameter.<br/>           Changed typical value of T<sub>R</sub>, T<sub>F</sub> parameter from 550 ps to 500 ps.<br/>           Added details in "Test Conditions" column corresponding to t<sub>DC</sub> parameter.<br/>           Added T<sub>LOCK</sub> parameter and its details.<br/>           Updated <a href="#">Recommended Crystal Specifications</a>:<br/>           Removed "Resonance Type" parameter and its details.</p> |

**Document History Page** (continued)

| Document Title: CY2XP22, Crystal to LVPECL Clock Generator<br>Document Number: 001-10229 |         |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------|---------|-----------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Revision                                                                                 | ECN     | Orig. of Change | Submission Date | Description of Change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| *B (cont.)                                                                               | 2700242 | KVM / PYRS      | 04/30/2009      | Updated <a href="#">Parameter Measurements</a> :<br>Removed figure "Output Load Test Circuit".<br>Removed figure "Output Duty Cycle/Pulse Width/Period".<br>Removed figure "Output Rise/Fall Time and Peak-Peak Voltage Swing".<br>Added <a href="#">Figure 5</a> .<br>Added <a href="#">Figure 6</a> .<br>Added <a href="#">Figure 7</a> .<br>Added <a href="#">Figure 8</a> .<br>Added <a href="#">Figure 10</a> .<br>Updated <a href="#">Ordering Information</a> :<br>Updated part numbers.<br>Updated to new template.                                                                                                                                                                                                                                                                                   |
| *C                                                                                       | 2718898 | WWZ             | 06/15/2009      | Minor Change:<br>Post to external web.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| *D                                                                                       | 2767298 | KVM             | 09/22/2009      | Updated <a href="#">DC Electrical Characteristics</a> :<br>Replaced $I_{DD}$ with $I_{DDT}$ in "Parameter" column (for terminated outputs).<br>Add $I_{DD}$ parameter and its details (for unterminated outputs).<br>Removed Note " $I_{DD}$ includes approximately 24 mA of current that is dissipated externally in the output termination resistors." and its reference.<br>Added Note 3 and referred the same note in $C_{IN}$ and $C_{INX}$ parameters.<br>Updated <a href="#">AC Electrical Characteristics</a> :<br>Added 1.0 ns under "Max" column corresponding to $T_R$ , $T_F$ parameter.<br>Updated details in "Test Conditions" column corresponding to $T_{LOCK}$ parameter.<br>Changed maximum value of $T_{LOCK}$ parameter from 10 ms to 5 ms.<br>Added $T_{LFS}$ parameter and its details. |
| *E                                                                                       | 2896121 | KVM             | 03/19/2010      | Updated <a href="#">Package Diagram</a> :<br>spec 51-85093 – Changed revision from *A to *B.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| *F                                                                                       | 3219081 | BASH            | 04/07/2011      | Changed status from Preliminary to Final.<br>Updated <a href="#">Ordering Information</a> :<br>No change in part numbers.<br>Added <a href="#">Ordering Code Definitions</a> .<br>Updated <a href="#">Package Diagram</a> :<br>spec 51-85093 – Changed revision from *B to *C.<br>Added <a href="#">Acronyms</a> and <a href="#">Units of Measure</a> .<br>Updated to new template.<br>Completing Sunset Review.                                                                                                                                                                                                                                                                                                                                                                                              |
| *G                                                                                       | 4336622 | XHT             | 05/02/2014      | Updated <a href="#">Package Diagram</a> :<br>spec 51-85093 – Changed revision from *C to *D.<br>Updated to new template.<br>Completing Sunset Review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| *H                                                                                       | 4570097 | XHT             | 11/14/2014      | Updated <a href="#">Functional Description</a> :<br>Added "For a complete list of related documentation, <a href="#">click here</a> ." at the end.<br>Updated <a href="#">Ordering Information</a> :<br>Updated part numbers.<br>Updated <a href="#">Package Diagram</a> :<br>spec 51-85093 – Changed revision from *D to *E.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| *I                                                                                       | 6135134 | XHT             | 04/12/2018      | Updated to new template.<br>Completing Sunset Review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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