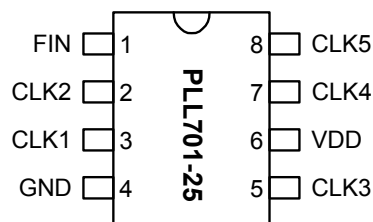


## Low EMI Spread Spectrum Multiplier Clock

### FEATURES

- Spread Spectrum clock with frequency range of 33 ~ 90MHz.
- Output frequency 1X the input frequency.
- Less than 250 ps skew between outputs.
- Less than 100 ps cycle - cycle jitter.
- $\pm 0.50\%$  Center Spread Modulation ( $\pm 15\%$  tolerance).
- TTL/CMOS compatible outputs.
- 3.3V operation.
- Available in 8-Pin 150mil SOIC.

### PIN CONFIGURATION

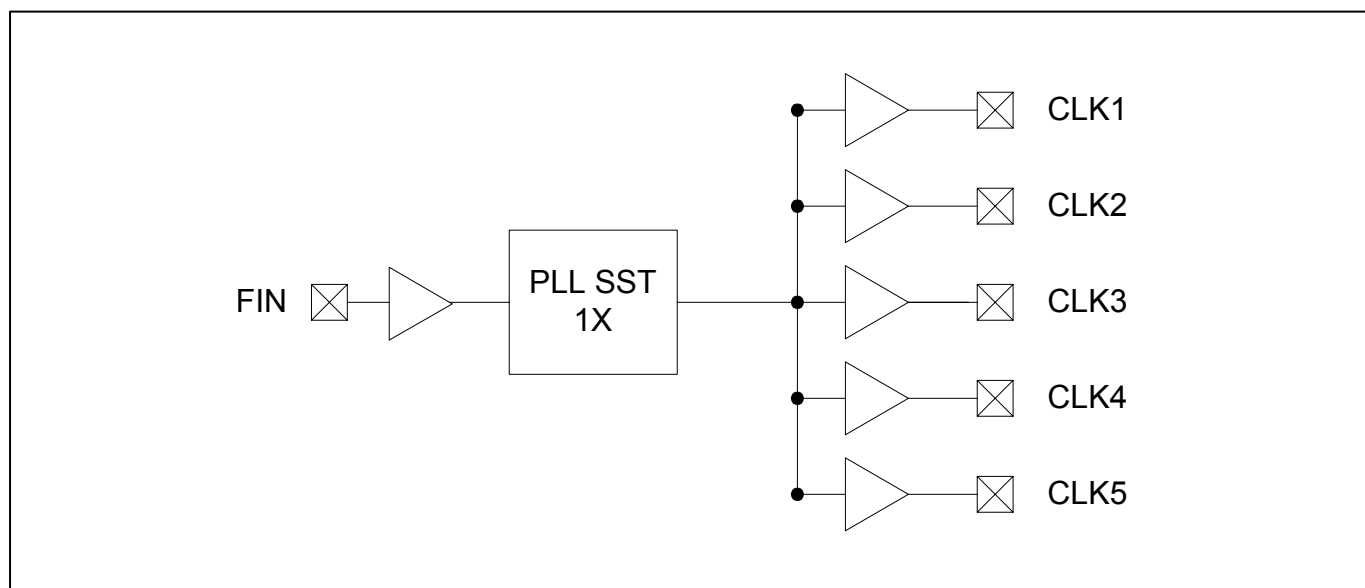


FIN = 33 ~ 90 Mhz

### DESCRIPTION

The PLL701-25 is a Spread Spectrum Clock Generator designed for the purpose of reducing EMI in high-speed digital systems. The device is designed to operate from 33 ~ 90MHz and provides five low-skew outputs.

### BLOCK DIAGRAM



## Low EMI Spread Spectrum Multiplier Clock

### PIN DESCRIPTIONS

| Name | Number | Type | Description                                            |
|------|--------|------|--------------------------------------------------------|
| FIN  | 1      | I    | Input Clock Frequency. ( 33 ~ 90MHz )                  |
| CLK2 | 2      | O    | Buffered Clock Output. 1X the input frequency ( FIN ). |
| CLK1 | 3      | O    | Buffered Clock Output. 1X the input frequency ( FIN ). |
| GND  | 4      | I    | Ground.                                                |
| CLK3 | 5      | O    | Buffered Clock Output. 1X the input frequency ( FIN ). |
| VDD  | 6      | P    | 3.3V Power Supply.                                     |
| CLK4 | 7      | O    | Buffered Clock Output. 1X the input frequency ( FIN ). |
| CLK5 | 8      | O    | Buffered Clock Output. 1X the input frequency ( FIN ). |

### ELECTRICAL SPECIFICATIONS

#### 1. Absolute Maximum Ratings

| PARAMETERS                        | SYMBOL          | MIN. | MAX.                 | UNITS |
|-----------------------------------|-----------------|------|----------------------|-------|
| Supply Voltage                    | V <sub>DD</sub> |      | 4.6                  | V     |
| Input Voltage, dc                 | V <sub>I</sub>  | -0.5 | V <sub>DD</sub> +0.5 | V     |
| Output Voltage, dc                | V <sub>O</sub>  | -0.5 | V <sub>DD</sub> +0.5 | V     |
| Storage Temperature               | T <sub>S</sub>  | -65  | 150                  | °C    |
| Ambient Operating Temperature*    | T <sub>A</sub>  | -40  | 85                   | °C    |
| Junction Temperature              | T <sub>J</sub>  |      | 125                  | °C    |
| Lead Temperature (soldering, 10s) |                 |      | 260                  | °C    |
| ESD Protection, Human Body Model  |                 |      | 2                    | kV    |

Exposure of the device under conditions beyond the limits specified by Maximum Ratings for extended periods may cause permanent damage to the device and affect product reliability. These conditions represent a stress rating only, and functional operations of the device at these or any other conditions above the operational limits noted in this specification is not implied.

\* **Note:** Operating Temperature is guaranteed by design for all parts (COMMERCIAL and INDUSTRIAL), but tested for COMMERCIAL grade only.

#### 2. Electrical Characteristics

| PARAMETERS          | SYMBOL          | CONDITIONS                                                         | MIN. | TYP. | MAX.  | UNITS |
|---------------------|-----------------|--------------------------------------------------------------------|------|------|-------|-------|
| Supply Voltage      | V <sub>DD</sub> |                                                                    | 2.97 |      | 3.63  | V     |
| Input Low Voltage   | V <sub>IL</sub> |                                                                    |      |      | 0.8   | V     |
| Input High Voltage  | V <sub>IH</sub> |                                                                    | 2.0  |      |       | V     |
| Input Low Current   | I <sub>IL</sub> | V <sub>IN</sub> = 0V                                               |      | 19   | 50.0  | μA    |
| Input High Current  | I <sub>IH</sub> | V <sub>IN</sub> = V <sub>DD</sub>                                  |      | 0.10 | 100.0 | μA    |
| Output Low Voltage  | V <sub>OL</sub> | I <sub>OL</sub> = 50 mA                                            |      | 0.25 | 0.4   | V     |
| Output High Voltage | V <sub>OH</sub> | I <sub>OH</sub> = 50 mA                                            | 2.4  | 2.9  |       | V     |
| Supply Current      | I <sub>DD</sub> | Unloaded outputs at 75MHz,<br>SEL inputs at V <sub>DD</sub> or GND |      | 30.0 | 40.0  | mA    |

**Low EMI Spread Spectrum Multiplier Clock**

**3. Timing Characteristics**

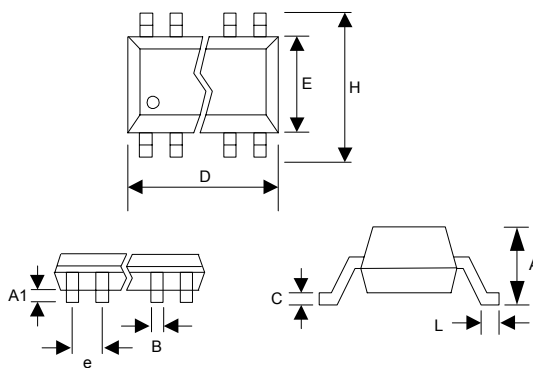
| PARAMETERS            | SYMBOL        | CONDITIONS                         | MIN. | TYP. | MAX. | UNITS |
|-----------------------|---------------|------------------------------------|------|------|------|-------|
| Input Frequency       | $F_{IN}$      |                                    | 33   |      | 90   | MHz   |
| Rise Time             | $T_r$         | Measured at 0.8V ~ 2.0V @ 3.3V     | 0.8  | 0.95 | 1.1  | ns    |
| Fall Time             | $T_f$         | Measured at 2.0V ~ 0.8V @ 3.3V     | 0.78 | 0.85 | 0.9  | ns    |
| Output Duty Cycle     | $D_T$         |                                    | 45   | 50   | 55   | %     |
| Input to Output Delay |               |                                    | 2    |      | 4    | ns    |
| Cycle to Cycle Jitter | $T_{cyc-cyc}$ | Over output frequency range @ 3.3V |      |      | 100  | ps    |

## Low EMI Spread Spectrum Multiplier Clock

### PACKAGE INFORMATION

8 PIN Narrow SOIC ( mm )

| Symbol | SOIC     |      |
|--------|----------|------|
|        | Min.     | Max. |
| A      | 1.47     | 1.73 |
| A1     | 0.10     | 0.25 |
| B      | 0.33     | 0.51 |
| C      | 0.19     | 0.25 |
| D      | 4.80     | 4.95 |
| E      | 3.80     | 4.00 |
| H      | 5.80     | 6.20 |
| L      | 0.38     | 1.27 |
| e      | 1.27 BSC |      |



### ORDERING INFORMATION

**For part ordering, please contact our Sales Department:**

47745 Fremont Blvd., Fremont, CA 94538, USA

Tel: (510) 492-0990 Fax: (510) 492-0991

#### PART NUMBER

The order number for this device is a combination of the following:

Device number, Package type and Operating temperature range

|                          |       |                                              |
|--------------------------|-------|----------------------------------------------|
| <b>PLL701-25 S C X X</b> |       |                                              |
| PART NUMBER              | _____ | NONE= TUBE<br>R=TAPE AND REEL                |
| PACKAGE TYPE             | _____ | NONE=NORMAL PACKAGE<br>L=GREEN PACKAGE       |
| S=SOIC                   | _____ | TEMPERATURE<br>C=COMMERCIAL,<br>I=INDUSTRIAL |

| Part / Order Number | Marking    | Package Option              | Temperature |
|---------------------|------------|-----------------------------|-------------|
| PLL701-25SC-R       | P701-25SC  | SOIC -Tape and Reel         | 0 to +70° C |
| PLL701-25SC         | P701-25SC  | SOIC -Tube                  | 0 to +70° C |
| PLL701-25SCL-R      | P702-25SCL | SOIC -Tape and Reel (GREEN) | 0 to +70° C |
| PLL701-25SCL        | P702-25SCL | SOIC -Tubes (GREEN)         | 0 to +70° C |

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Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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