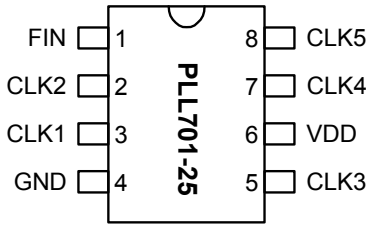
# PLL701-25

## 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.
- ±0.50% Center Spread Modulation (+/-15% tolerance).
- TTL/CMOS compatible outputs.
- 3.3V operation.
- Available in 8-Pin 150mil SOIC.

### PIN CONFIGURATION

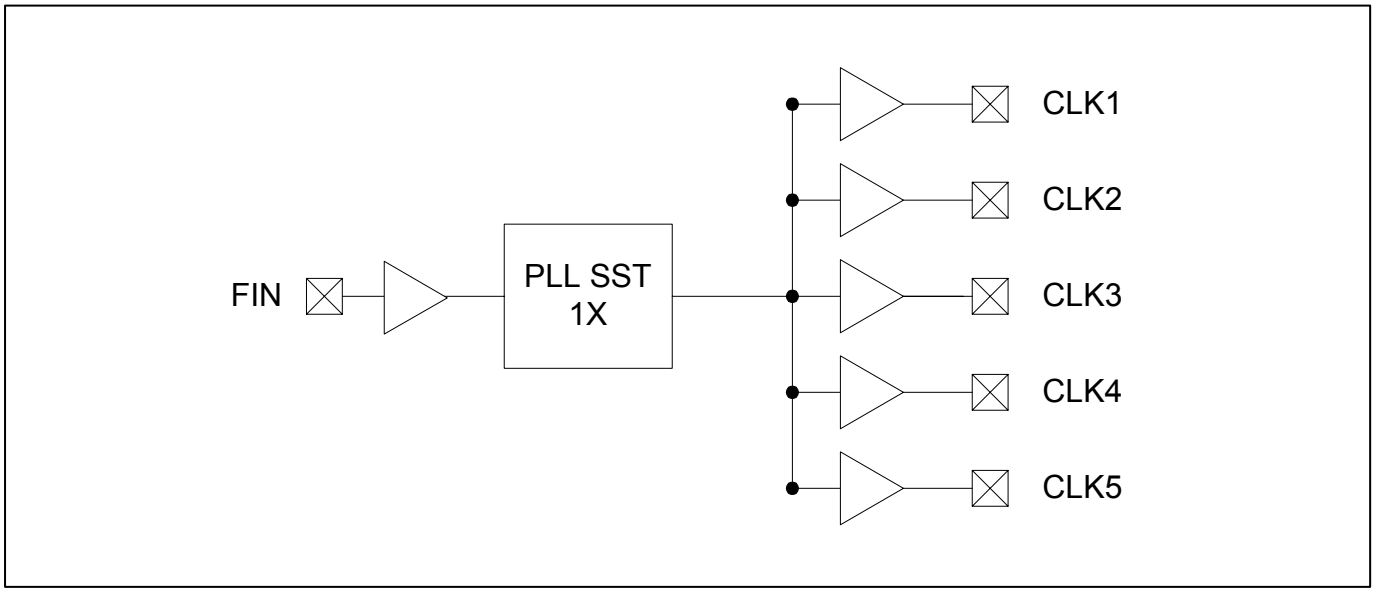



FIN = 33 ~ 90 Mhz

### 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



## 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 | $V_{DD}$ | | 4.6 | V |
| Input Voltage, dc | $V_I$ | -0.5 | $V_{DD}$+0.5 | V |
| Output Voltage, dc | $V_O$ | -0.5 | $V_{DD}$+0.5 | V |
| Storage Temperature | $T_S$ | -65 | 150 | °C |
| Ambient Operating Temperature* | $T_A$ | -40 | 85 | °C |
| Junction Temperature | $T_J$ | | 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 | $V_{DD}$ | | 2.97 | | 3.63 | V |
| Input Low Voltage | $V_{IL}$ | | | | 0.8 | V |
| Input High Voltage | $V_{IH}$ | | 2.0 | | | V |
| Input Low Current | $I_{IL}$ | $V_{IN}$ = 0V | | 19 | 50.0 | µA |
| Input High Current | $I_{IH}$ | $V_{IN}$ = $V_{DD}$ | | 0.10 | 100.0 | µA |
| Output Low Voltage | $V_{OL}$ | $I_{OL}$ = 50 mA | | 0.25 | 0.4 | V |
| Output High Voltage | $V_{OH}$ | $I_{OH}$ = 50 mA | 2.4 | 2.9 | | V |
| Supply Current | $I_{DD}$ | Unloaded outputs at 75MHz, SEL inputs at $V_{DD}$ or GND | | 30.0 | 40.0 | mA |

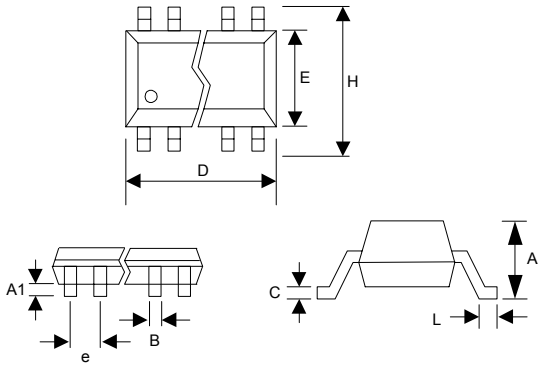
## 3. Timing Characteristics

| 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 |

## PACKAGE INFORMATION

8 PIN Narrow SOIC ( mm )

| | SOIC | |
|---|---|---|
| Symbol | 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

**PLL701-25 S C X X**

*PART NUMBER*

PACKAGE TYPE
S=SOIC

TEMPERATURE
C=COMMERCIAL,
I=INDUSTRIAL

NONE=NORMAL PACKAGE
L=GREEN PACKAGE

NONE= TUBE
R=TAPE AND REEL

| 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 (GREEEN) | 0 to +70° C |
| PLL701-25SCL | P702-25SCL | SOIC –Tubes (GREEN) | 0 to +70° C |

*PhaseLink Corporation, reserves the right to make changes in its products or specifications, or both at any time without notice. The information furnished by Phaselink is believed to be accurate and reliable. However, PhaseLink makes no guarantee or warranty concerning the accuracy of said information and shall not be responsible for any loss or damage of whatever nature resulting from the use of, or reliance upon this product.*

**LIFE SUPPORT POLICY**: PhaseLink's products are not authorized for use as critical components in life support devices or systems without the express written approval of the President of PhaseLink Corporation.

Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** sales@st-electron.ru

**Адрес:** 198099, Санкт-Петербург, Промышленная ул, дом № 19, литера Н, помещение 100-Н Офис 331