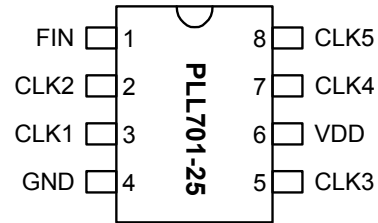


**Low EMI Spread Spectrum Multiplier Clock**

**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**

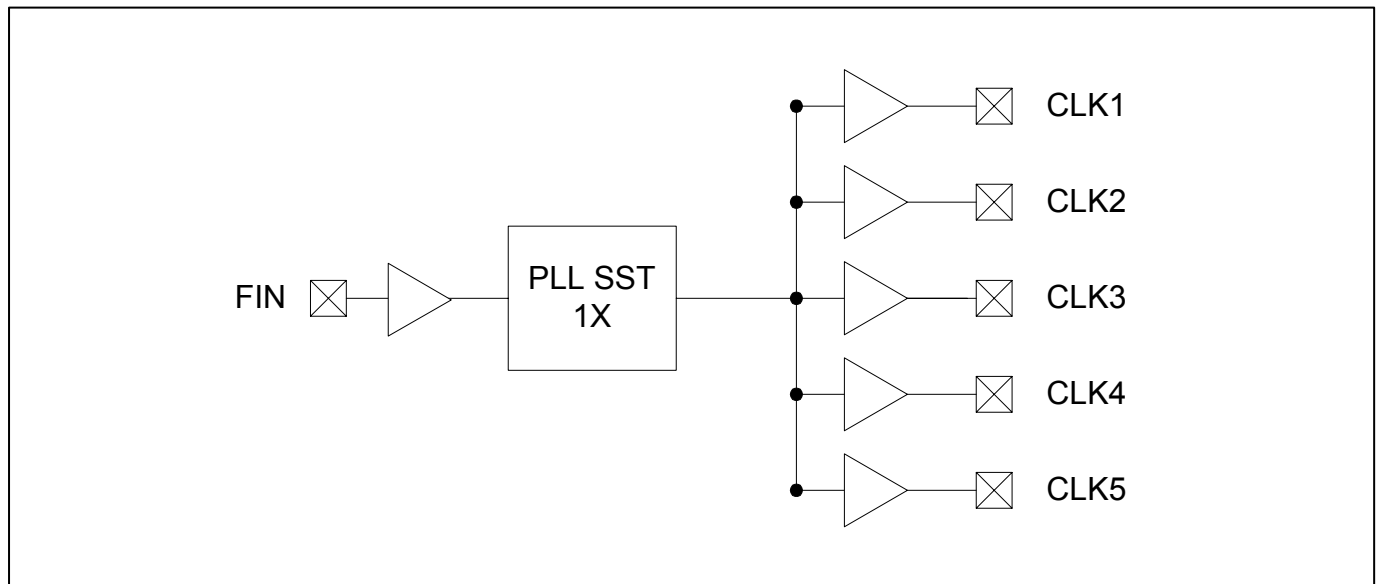


FIN = 33 ~ 90 Mhz

**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	$V_{DD}$		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	$V_{OL}$	$I_{OL} = 50\text{ mA}$		0.25	0.4	V
Output High Voltage	$V_{OH}$	$I_{OH} = 50\text{ mA}$	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

## 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	

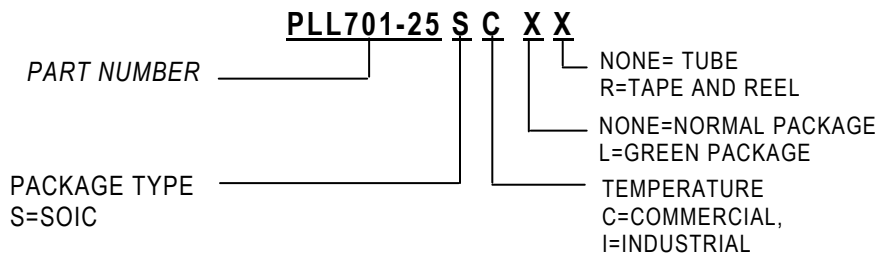
**ORDERING INFORMATION**

**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



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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