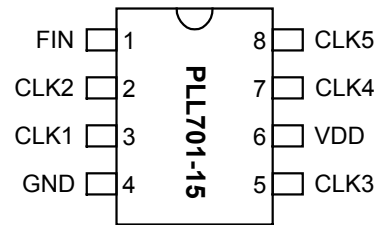


## Low EMI Spread Spectrum Multiplier Clock

### 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.
- TTL/CMOS compatible outputs.
- 3.3V operation.
- Available in 8-Pin 150mil SOIC.

### PIN CONFIGURATION

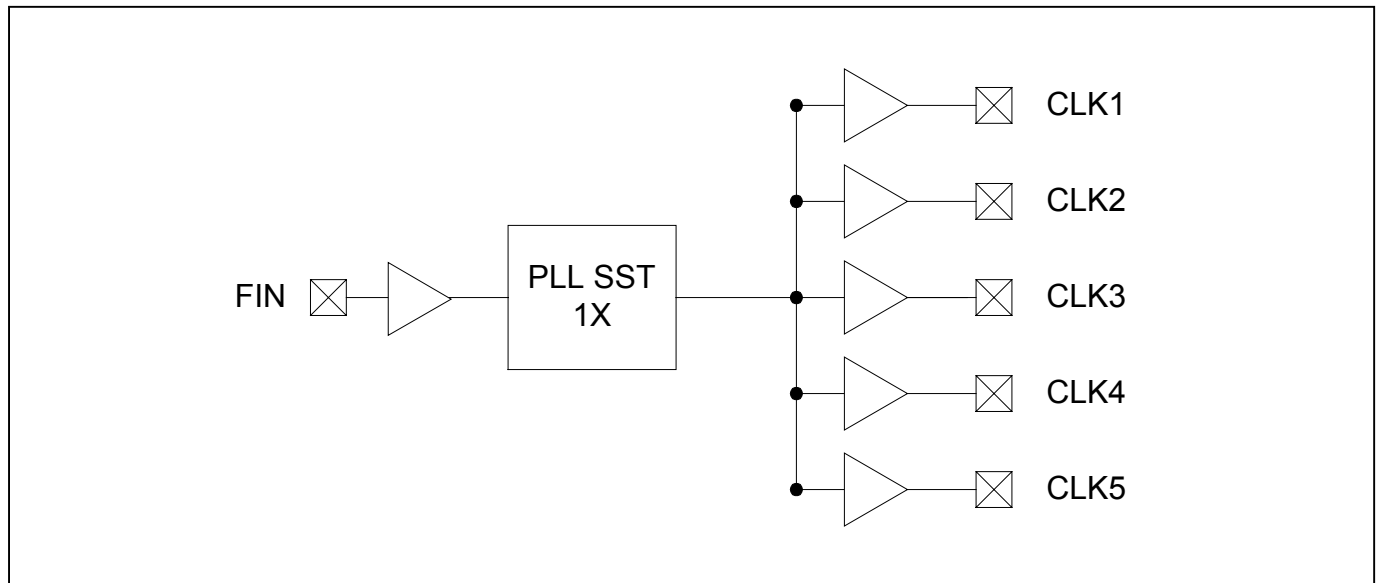


FIN = 33 ~ 90 Mhz

### DESCRIPTIONS

The PLL701-15 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 ).

## Low EMI Spread Spectrum Multiplier Clock

### ELECTRICAL SPECIFICATIONS

#### 1. Absolute Maximum Ratings

PARAMETERS	SYMBOL	MIN.	MAX.	UNITS
Supply Voltage Range	$V_{CC}$	-0.5	7	V
Input Voltage Range	$V_I$	-0.5	$V_{CC}+0.5$	V
Output Voltage Range	$V_O$	-0.5	$V_{CC}+0.5$	V
Soldering Temperature			260	°C
Storage Temperature	$T_S$	-65	150	°C
Ambient Operating Temperature*	$T_A$	-40	85	°C
ESD Voltage			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 INDUSTRIAL grade only.

#### 2. Electrical Characteristics

$V_{DD} = 3.0\sim 3.6V$ , unless otherwise stated

PARAMETERS	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
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	$\mu A$
Input High Current	$I_{IH}$	$V_{IN} = V_{DD}$		0.10	100.0	$\mu A$
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

**PLL701-15 S C**

PART NUMBER \_\_\_\_\_

- TEMPERATURE  
 C=COMMERCIAL  
 M=MILITARY  
 I=INDUSTRIAL
- PACKAGE TYPE  
 S=SOIC

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