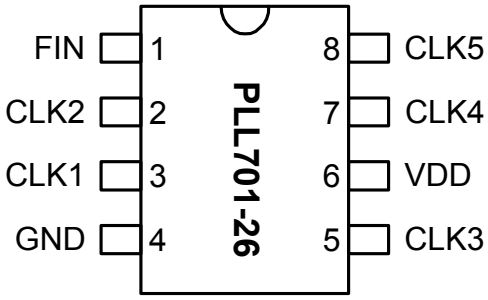
Low EMI Spread Spectrum Multiplier Clock

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.
- ±1.0% Center Spread Modulation (+/-15% tolerance).
- TTL/CMOS compatible outputs.
- 3.3V operation.
- Available in 8-Pin 150mil SOIC.

PIN CONFIGURATION

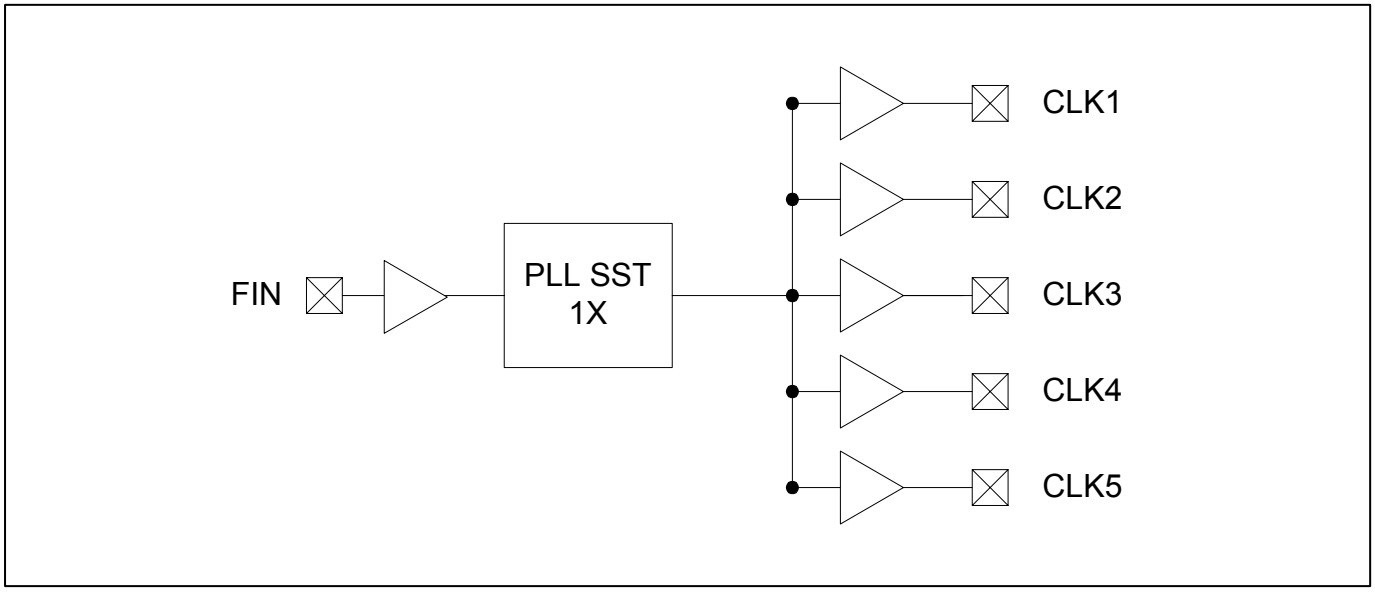


FIN = 33 ~ 90 Mhz

DESCRIPTION

The PLL701-26 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 with ±1.0% Center Spread Modulation.

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

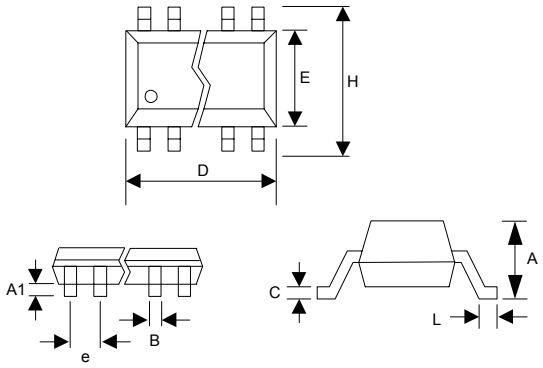
3. Timing Characteristics

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

PLL701-26 S X X X

PART NUMBER

NONE= TUBE
R=TAPE and REEL

NONE=NORMAL PACKAGE
L=GREEN PACKAGE

PACKAGE TYPE
S=SOIC

TEMPERATUE
C=COMMERCIAL
I = INDUSTRIAL

Order Number	Marking	Package Option
PLL701-26SC-R	P701-26SC	SOIC -Tape and Reel
PLL701-26SC	P701-26SC	SOIC –Tube
PLL701-26SCL-R	P701-26SCL	SOIC -Tape and Reel
PLL701-26SCL	P701-26SCL	SOIC –Tube