

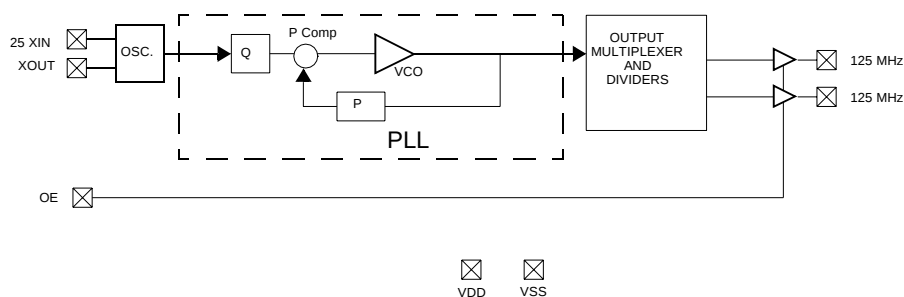


Dual Output 125-MHz Clock Generator

Features	Benefits
• Integrated phase-locked loop	Highest-performance PLL tailored for multimedia applications
• Low skew, low jitter, high accuracy outputs	Meets critical timing requirements in complex system designs
• 3.3V Operation	

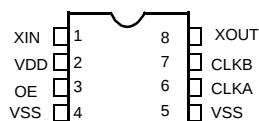
Part Number	Outputs	Input Frequency Range	Output Frequencies
CY26126	2	25 MHz	2 copies of 125 MHz (3.3V)

Logic Block Diagram



Pin Configurations

CY26126
8-pin SOIC



Pin Summary

Name	Pin Number	Description
XIN	1	Reference Input
VDD	2	3.3V Voltage Supply
OE	3	Output Enable
VSS	4	Ground
VSS	5	Ground
CLKA	6	125-MHz Clock Output A
CLKB	7	125-MHz Clock Output B
XOUT ^[1]	8	Reference Output

Absolute Maximum Conditions

Parameter	Description	Min.	Max.	Unit.
V _{DD}	Supply Voltage	-0.5	7.0	V
T _S	Storage Temperature ^[2]	-65	125	°C
T _J	Junction Temperature		125	°C
	Digital Inputs	V _{SS} - 0.3	V _{DD} + 0.3	V
	Digital Outputs referred to V _{DD}	V _{SS} - 0.3	V _{DD} + 0.3	V
	Electro-Static Discharge	2		kV

Recommended Operating Conditions

Parameter	Description	Min.	Typ.	Max.	Unit
V _{DD}	Operating Voltage	3.14	3.3	3.47	V
T _A	Ambient Temperature	0		70	°C
C _{LOAD}	Max. Load Capacitance			15	pF
P _{max}	Max. Output Power Dissipation			150	mW
f _{REF}	Reference Frequency		25		MHz
t _{PU}	Power-up time for all VDD's to reach minimum specified voltage (power ramps must be monotonic)	0.05		500	ms

DC Electrical Characteristics

Parameter	Description	Conditions	Min.	Typ.	Max.	Unit
I _{OH}	Output High Current	V _{OH} = V _{DD} - 0.5, V _{DD} = 3.3V	12	24		mA
I _{OL}	Output Low Current	V _{OL} = 0.5, V _{DD} = 3.3V	12	24		mA
V _{IH}	Input High Voltage	CMOS Levels 70% of V _{DD}	0.7			V _{DD}
V _{IL}	Input Low Voltage	CMOS Levels 30% of V _{DD}			0.3	V _{DD}
C _{IN}	Input Capacitance				7	pF
I _{IZ}	Input Leakage Current			5		μA
I _{DD}	Supply Current	Sum of Core and Output Current			35	mA

Notes:

1. Float XOUT pin if XIN is driven by reference clock (as opposed to crystal).
2. Rated for 10 years.

AC Electrical Characteristics ($V_{DD} = 3.3V$)^[3]

Parameter	Description	Conditions	Min.	Typ.	Max.	Unit
	Output Duty Cycle	Duty Cycle is defined in <i>Figure 1</i> , 50% of V_{DD}	45	50	55	%
t3	Rising Edge Slew Rate	Output Clock Rise Time, 20% - 80% of V_{DD}	0.8	1.4		V/ns
t4	Falling Edge Slew Rate	Output Clock Fall Time, 80% - 20% of V_{DD}	0.8	1.4		V/ns
t9	Clock Jitter	Peak to Peak period jitter			200	ps
t10	PLL Lock Time				3	ms

Note:

3. Not 100% tested.

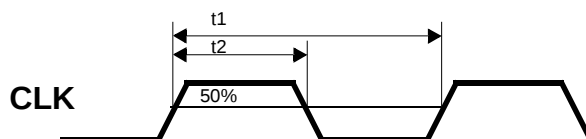
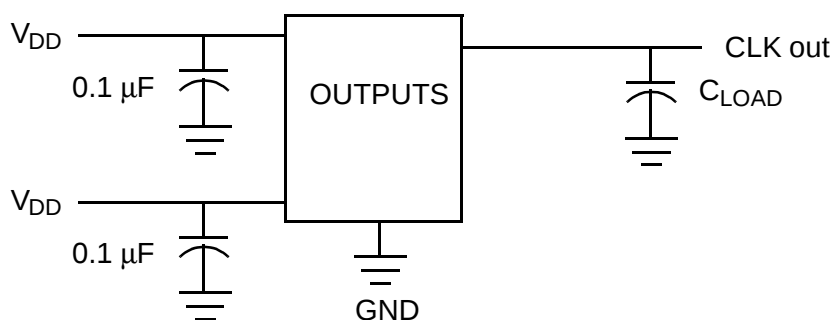
Test Circuit


Figure 1. Duty Cycle Definition; $DC = t2/t1$

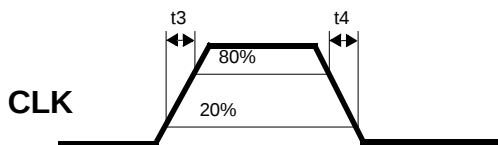
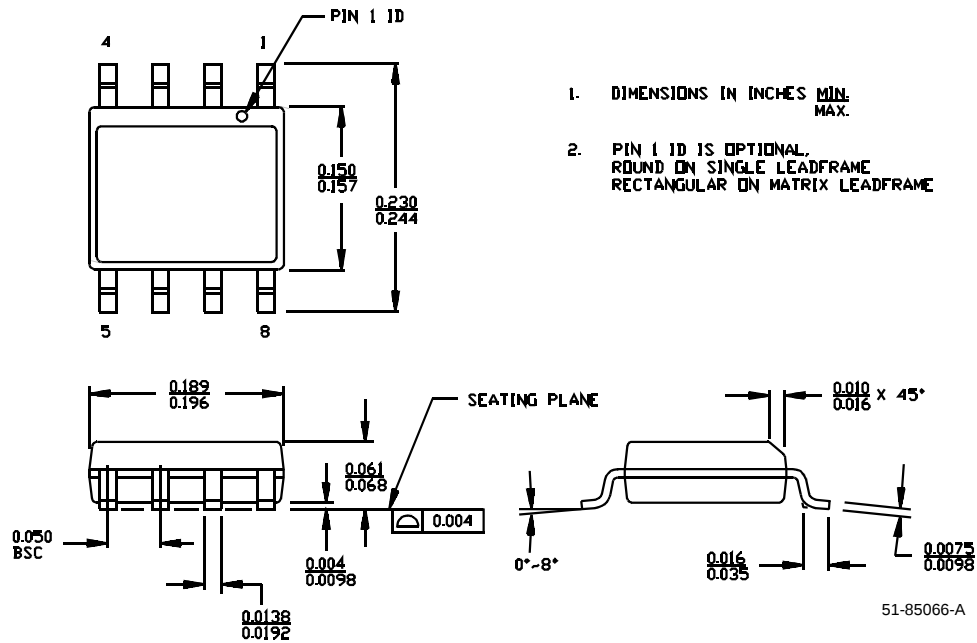


Figure 2. Rise and Fall Time Definitions

Ordering Information

Ordering Code	Package Name	Package Type	Operating Range	Operating Voltage
CY26126SC	S8	8-Pin SOIC	Commercial	3.3V

Package Diagram
8-Lead (150-Mil) SOIC S8


Document Title: CY26126 Dual Output 125-MHz Clock Generator Document Number: 38-07351				
REV.	ECN NO.	Issue Date	Orig. of Change	Description of Change
**	112233	03/01/02	CKN	New data sheet
*A	121891	12/14/02	RBI	Power up requirements added to Operating Conditions Information