

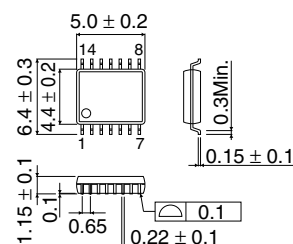
VCO+phase comparator IC for PLL system

BU2373FV

● Description

BU2373FV is a VCO+phase comparator IC used to construct PLL system. PLL system is constructed and low jitter clocks can be generated by adopting external LPF and divider. Through a mechanism incorporated in this IC the output could be switched into half. Another function can set in the center point of frequency by adjusting external resistance.

● Dimension (Unit : mm)



SSOP-B14

● Features

- 1) $V_{DD}=2.85V\sim 5.25V$ operating guaranteed
- 2) Oscillating range of VCO
 - 37MHz~60MHz ($V_{DD}=3.0V$)
 - 37MHz~65MHz ($V_{DD}=3.3V$)
 - 43MHz~100MHz ($V_{DD}=5.0V$)
- 3) High-speed edge trigger type phase comparator
- 4) VCO can be fine-adjusted by external resistor.
- 5) VCO and phase comparator can be controlled independently.
- 6) Small SSOP-B14 package

● Applications

TV

● Absolute Maximum Ratings ($T_a=25^{\circ}C$)

Parameter	Symbol	Limits	Unit
Applied voltage	V_{DD}	-0.5 ~ 7.0	V
Input voltage	V_{IN}	-0.5 ~ $V_{DD}+0.5$	V
Power dissipation	P_d	400 *	mW
Storage temperature range	T_{stg}	-30 ~ +125	$^{\circ}C$

*Operating is not guaranteed.

*Derating : 4.0W/ $^{\circ}C$ for operation above $T_a=25^{\circ}C$

*This product is not designed for protection against radioactive rays.

* P_d is the value when the IC is mounted on the board.

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V _{DD}	2.85	-	5.25	V
Input H voltage range	V _{IH}	0.8V _{DD}	-	V _{DD}	V
Input L voltage range	V _{IL}	0.0	-	0.2V _{DD}	V
Operating temperature	Topr	-20	-	75	°C
Output load	C _L	-	-	15	pF

● Electrical characteristics (Unless otherwise noted; Ta=25°C, V_{CC}=3.3V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
VCO current consumption (At normal operation)	I _{DD}	-	15	-	mA	60MHz output
VCO oscillation range	frange	37	-	65	MHz	
Bias Resistor range	R _{bias}	1.6	-	2.2	kΩ	*1
Frequency sensitivity	β ₁	-	23	-	MHz/V	*2
Output Duty	Duty	45	50	55	%	1/2V _{DD} test

*1 Design guaranteed value Bias R=2.2kΩ 37MHz~44MHz
 (All guaranteed range) Bias R=1.9kΩ 43MHz~53MHz
 Bias R=1.6kΩ 51MHz~65MHz

*2 Frequency sensitivity {f1(VCOIN=2.0V)-f2(VCOIN=1.0V)}/1.0V

● Application Circuit

