

FX060 Frequency Translator



Features

- 19.44 MHz and 155.52 MHz Clock Outputs Locked to an 8 kHz or 1.544 MHz Input Clock
- Commercial or Industrial Temperature Range
- Surface Mount Option Available
- Single 5.0 Vdc Supply
- AC/HCMOS Compatible Inputs and Outputs
- Lock Detect Circuit
- <10 ps rms Output Jitter at 19.44 MHz
- 19 ps rms Typical Output Jitter at 155.52 MHz
- ± 70 ppm Input Frequency Tolerance

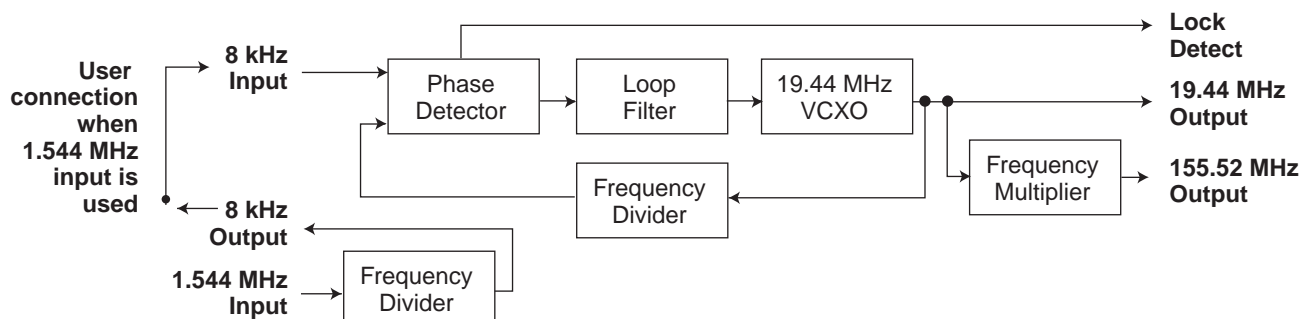
Applications

- Clock Frequency Translation
- SONET/SDH/ATM
- Clock Distribution

Description

Vectron's FX060 frequency translator is a low noise, narrow band PLL that generates 155.52 MHz and 19.44 MHz output clocks locked to an input 8 kHz or 1.544 MHz reference clock. The 19.44 MHz clock is generated by a low noise VCXO. The 155.52 MHz signal is a multiplied representation of the 19.44 MHz output.

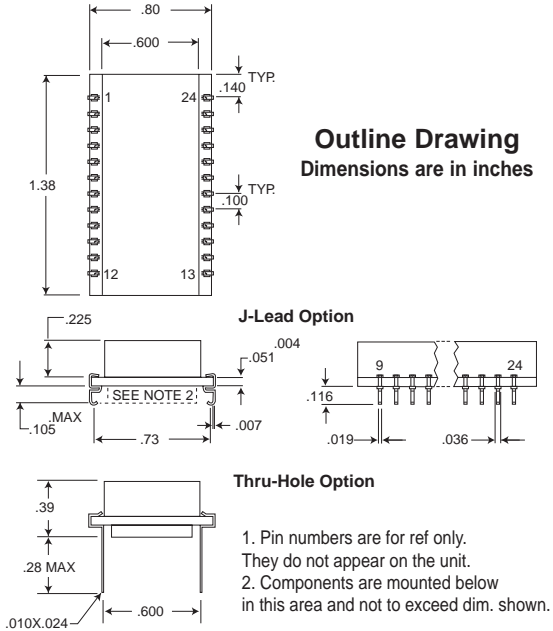
Block Diagram



FX060 Frequency Translator

Performance Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Units
Supply Voltage	V _{DD}	4.75	5.0	5.25	V
Supply Current	I _{DD}	-	60	100	mA
Input Signal	CLKIN	AC/HCMOS			-
Output Load	CLKOUT	AC/HCMOS			-
Output Symmetry	DC	45	50	55	%
19.44 MHz Output Clock Edge Jitter	J _{19.44}	-	-	10	ps rms
155.52 MHz Output Clock Jitter	J _{155.52}	-	19	-	ps rms
Rise/Fall Time of 19.44 MHz Output	T _{R/F}	-	-	7	ns
Rise/Fall Time of 155.52 MHz Output	T _{R/F}	-	-	2	ns
Input Frequency Tolerance	-	-70	-	+70	ppm
Output Frequency Stability	Tracks reference stability when locked				



Pin	Symbol	Function
1	OUT19	19.44 MHz Clock Output
3	OUT155	155.52 MHz Clock Output
10	LOCK	Lock Detect Output. Lock indicated by Logic High. When not locked output toggles at a rate proportional to the phase difference between the input clock and the internal crystal oscillator
14	OUT8	8 kHz Clock Output from 1.544 MHz reference clock
15	IN8	8 kHz Reference Clock Input.
22	IN1.5	1.544 MHz Reference Clock Input*
24	VDD	5 Vdc ±5% Supply
2,6,12,19	GND	Case Ground
4,5,7,8,9,11,13,16,17,18,20,21,23	N/C	No User Connection

* Note: For 1.544 MHz input reference, tie pins 14 and 15 together and use pin 22 input

How to Order

FX060

J = J lead
T = Thru Hole

C = 0°C to 70°C
L = -40°C to +85°C

Handling Precautions

Although protection circuitry has been designed into this device, proper precautions should be taken to avoid exposure to electrostatic discharge (ESD) during handling and mounting.



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