

M9004 Series

LVPECL/LVDS/CMOS Frequency Translator

The MtronPTI Frequency Translator is a miniature, self contained, high performance Phase Locked Loop synthesizer. It is intended for coherent frequency translation with noise reduction. It can be used anywhere accurate frequency synchronization, multiplication and noise and jitter reduction is needed. Based on MtronPTI's unique Qik Chip technology, virtually any input frequency in the range of 8 KHz to 622 MHz can be translated to any frequency in the range of 19.44MHz to 1.4 GHz. The M9004 Series features a loss of lock indicator that can also be used to detect a loss of reference. An enable/disable function is also standard. Outputs at PECL, LVDS and CMOS levels are available.

Ordering Information

M9004 C SXXX

Product Series _____

Output _____

C: CMOS
P: LVPECL
L: LVDS

Customer Specific _____
(Assigned at Factory)

Applications include:

- Translation of 155 MHz to 622 or 1244 MHz (Sonet/SDH synchronization)
- Translation of 1.544 MHz to 38.88 or 155.52 MHz. (DS1 to SDH synchronization)
- Custom frequency translation up to 1.4 GHz.
- Jitter reduction.
- Phase noise improvement
- Frequency distribution applications.

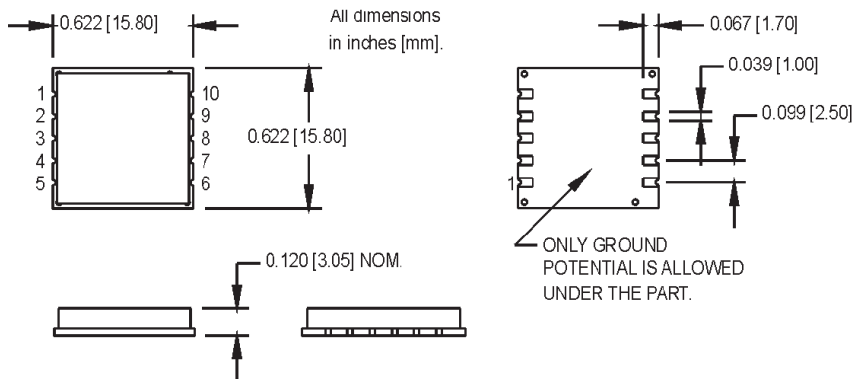
	Parameter	Min.	Typ.	Max.	Units	Conditions/Notes
Electrical Specifications	Input Frequency Range	.008		622	MHz	
	Output Frequency Range	19.44		1400	MHz	LVPECL/LVDS
		19.44		200	MHz	CMOS
	Supply Voltage	3.3 Volt (±5%)				
	Input Level (dBm 50 Ohms)	-3		+7	dBm	
	PECL Output	Logic "0" Vcc-1.63 V Logic "1" Vcc-1.02 V				
	Current Drain		135		mA	
	Operating Temperature	-40°C to +85°C				
	Input Frequency Tracking Capability	±50			ppm	
	Jitter Attenuation	3 dB @ 100 Hz offset 30 dB @ 1kHz offset				Loop characteristics can be adjusted to match customer requirements
	RMS Phase Jitter Generation		<0.45	<1	psec	10 kHz to 20 MHz
	Spurious Output Levels	Reference sidebands <-40 dBc All other spurious <-60 dBc				
Environmental	Storage Temperature	-40°C to +90°C				
	Humidity	95%, relative humidity max @ 70°C				
	Vibration	10 to 60 Hz with double amplitude of 1.52mm max.				(1/2 hour in each of 3 perpendicular planes)
	Shock	½ sine pulse, 3000G, with pulse width 0.3 mSec				(3 shock in each of 6 directions of 3 perpendicular planes)
	Maximum Soldering Profile	See +260°C Reflow Profile				

MtronPTI reserves the right to make changes to the product(s) and service(s) described herein without notice. No liability is assumed as a result of their use or application.

Please see www.mtronpti.com for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

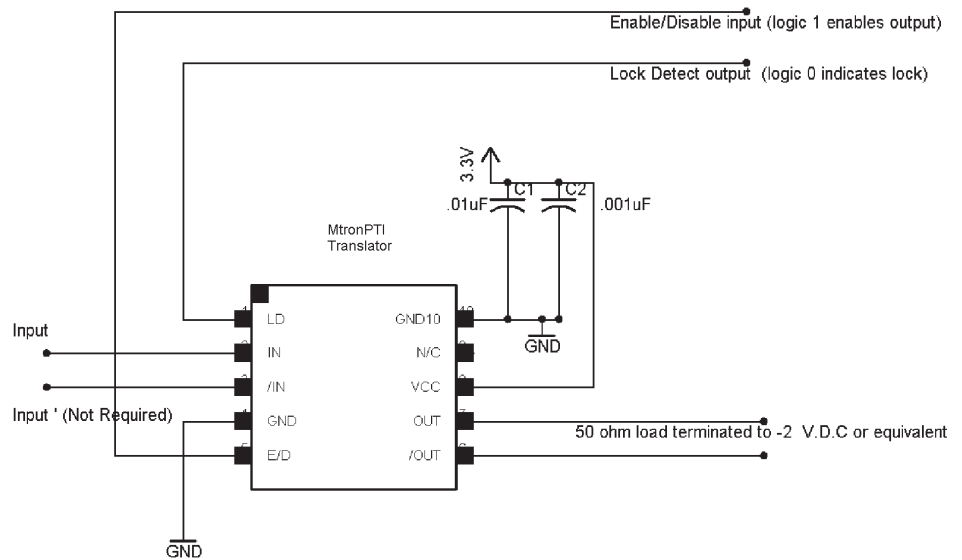
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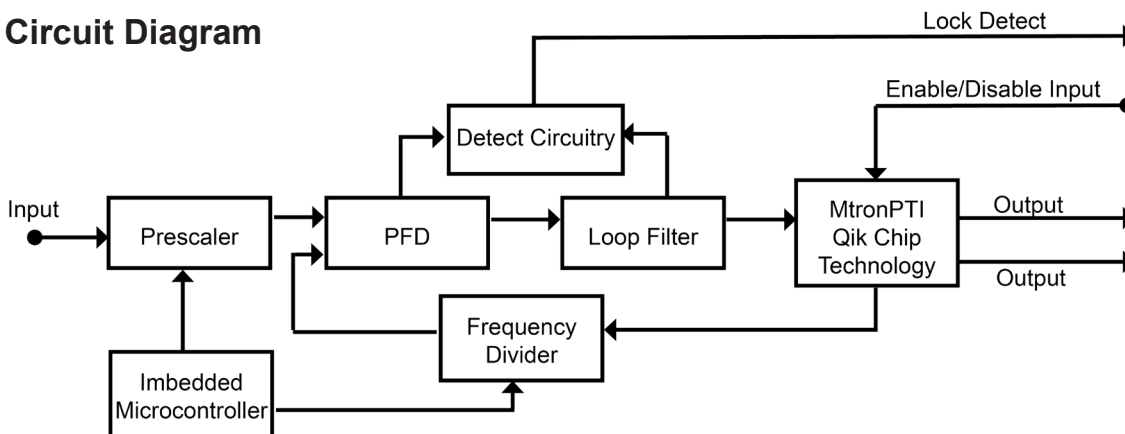


PAD 1: Lock Detect	PAD 6: Complementary $\bar{Q}$
PAD 2: Input Frequency	PAD 7: Output $\bar{Q}$
PAD 3: Complementary Input	PAD 8: +Vcc Power Supply
PAD 4: Ground	PAD 9: N/C
PAD 5: Enable/Disable	PAD 10: Ground

Wiring Diagram



Circuit Diagram

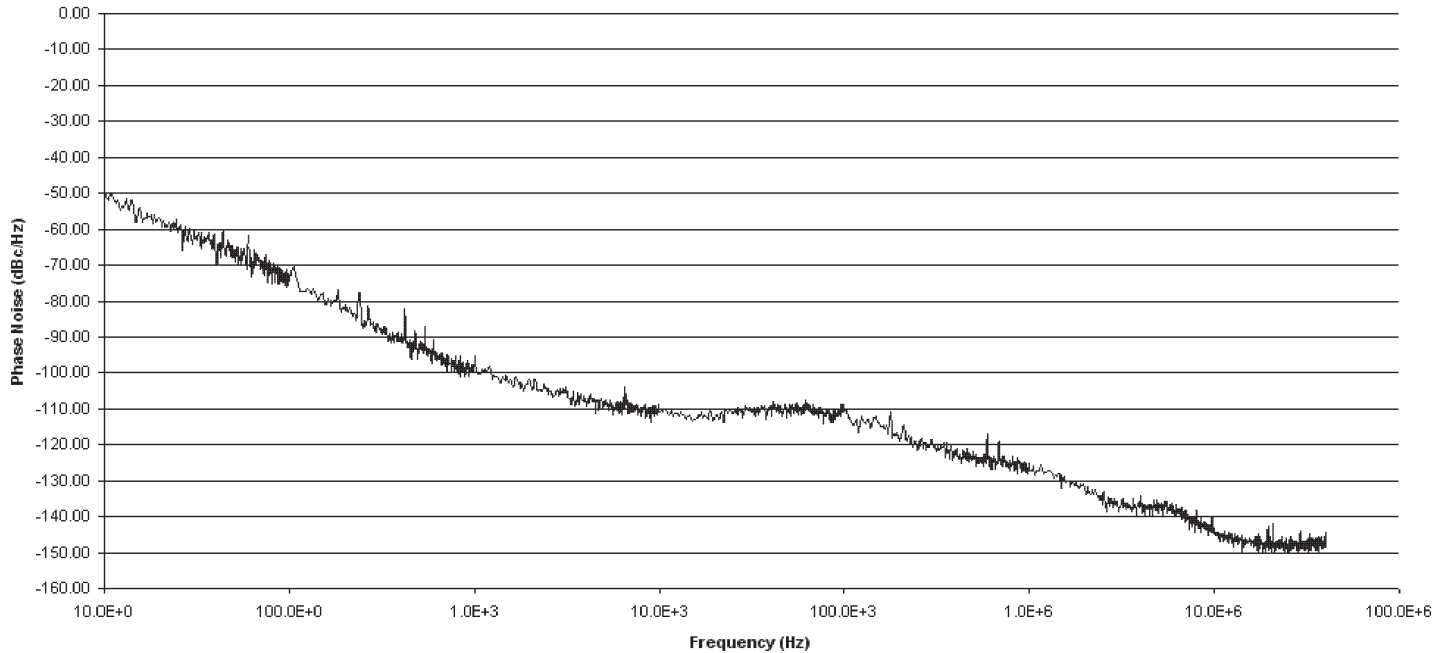


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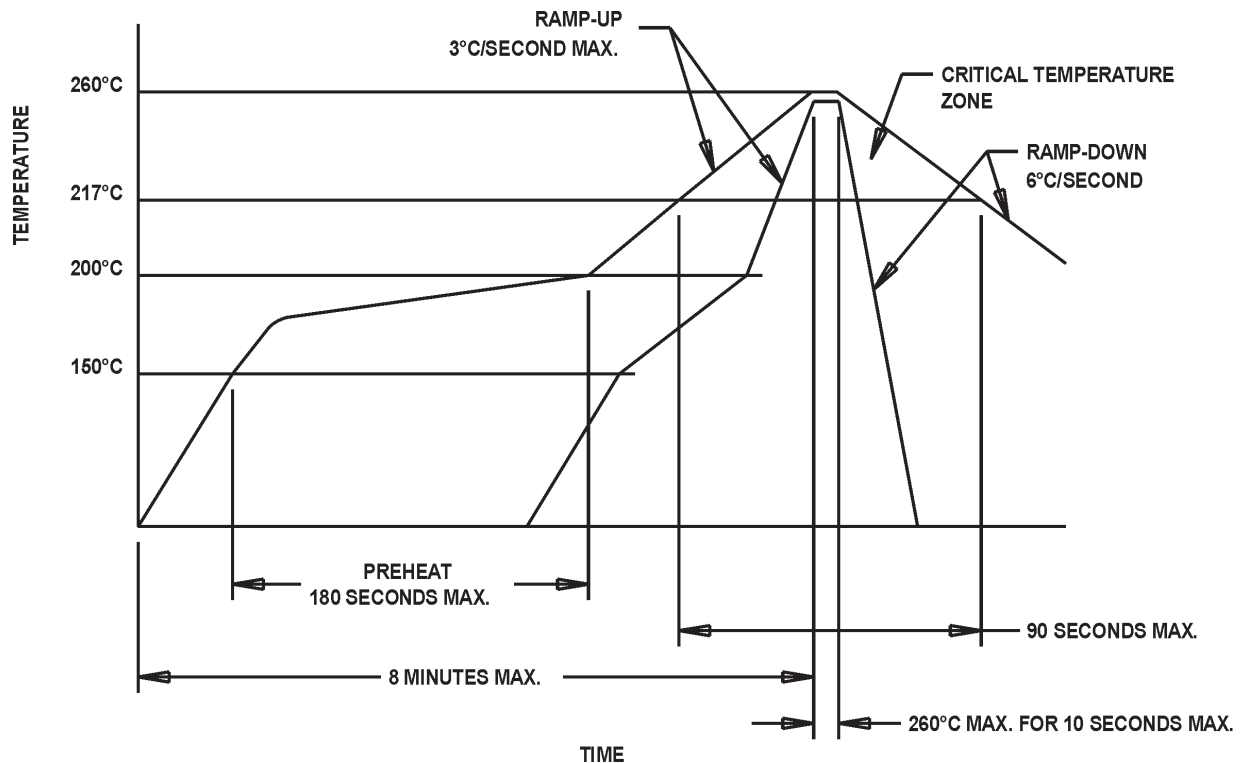
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Typical Phase Noise

155 MHz to 622 MHz Frequency Translator



Lead Free Solder Profile



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