

TCXO3408

1 GHz LVPECL Highly Stable TCXO

Features

Frequency Range 200 to 1000 MHz
Ultra Low jitter : 0.25 ps typical (12KHz to 20MHz BW)
Low power : less than 220 mW typical
Less than +/- 0.28ppm from 0C to 70C
LVPECL outputs

Typical Applications

SONET / SDH / ATM
10 Gigabit Ethernet
Digital Wireless Reference

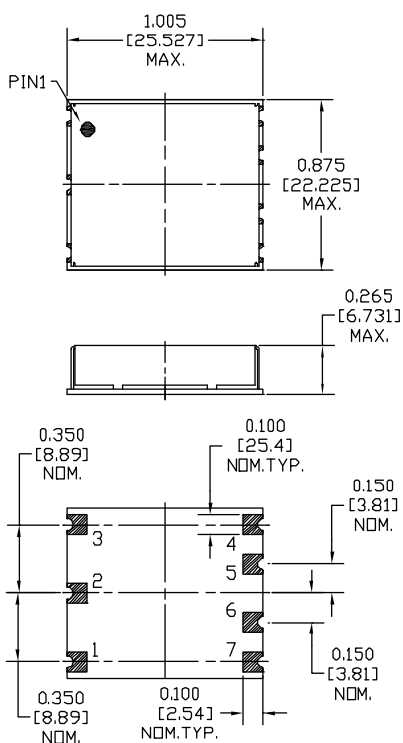
Description

The TCXO3408 employs low noise / low jitter temperature compensation techniques with LVPECL outputs and less than 0.28 ppm temperature stability up to 1 GHz frequency operation. The device contains an internal voltage regulator for improved isolation from power supply ripple and added stability.

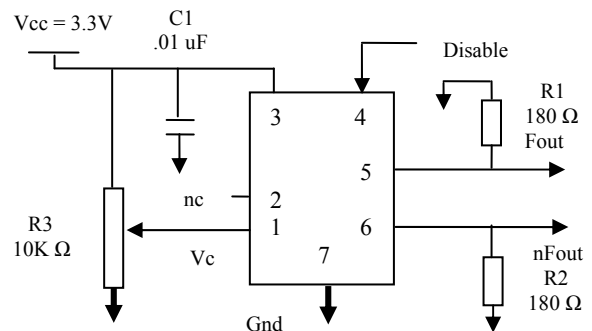
Picture of Part



Physical Dimensions



Pin Connections



Pin #	Connection
1	Vc
2	N/C
3	Vcc
4	N/C
5	Output
6	Output
7	GND

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Specification

TCXO Specification	Sym.	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	f_0		200		1000	MHz	
LVPECL Outputs	H - level voltage	V_{OH}	$V_{CC}-0.96$		$V_{CC}-0.81$	V	
	L - level voltage	V_{OL}	$V_{CC}-1.85$		$V_{CC}-1.65$	V	
	Rise & Fall time	T_r/T_f	20% to 80%		0.6	ns	
	Duty cycle		45	50	55	%	
	PECL LOAD	R_L	50 ohm to $V_{CC} - 2V$		50	ohm	
Power supply							
Voltage	V_{CC}		3.150	3.300	3.450	V	
Current consumption	I_{CC}	50 ohm load		65	80	mA	
Frequency control*							
Control voltage range	V_C		0.0	1.3 1.7	3.3	V	Nominal Frequency between 1.3 and 1.7 volts on Vcontrol
Tuning range Slope			- 10		+10	ppm/v	
V_C Input Impedance			10			Kohm	3 dB bandwidth
Modulation BW			10			Hz	
Frequency stability							
vs. temperature		0°C to +70°C, ref 25°C	-0.280		+0.280	ppm	
Tolerance at 25C			-0.1		+0.1	ppm	With 1.3 to 1.7 volts on Vcontrol
Total Frequency Stability		All conditions over 20 years	-4.6		+4.6	ppm	
SSB Phase noise @ 622.08 MHz typical		10 Hz				dBc/Hz	
		100 Hz		-90			
		1 kHz		-118			
		10 kHz		-142			
		100 kHz		-145			
Phase Jitter (12K to 20MHz)				0.25	0.50	ps	
Enable		No Outputs if Pin 4 greater than RF-outputs if Pin 4 less than	2.5			volt	** Outputs always present if Pin 4 is left as a no-connect
Disable					0.5	volts	
Environmental, mechanical conditions.							
Operating temperature range	0°C to +70°C maximum range available for +/- 0.28 ppm stability over temperature						
Storage temperature range	-55°C to +105°C						
Thermal Shock	MIL-STD-883, Method 1011, Condition A						
Mechanical shock	MIL-STD-202, Method 213, Condition E						
Vibration	MIL-STD-883, Method 2007, Condition A						
Soldering	260C for 10 seconds maximum						

Ordering Information

TCXO3408-XXX.XXXXXX-W

1. Field "XXX.XXXXXX" is the Output Frequency to six decimals in MHz
2. Field "W" is Operating Temperature Range and Freq. Stability :
 - a. "0" for 0°C to +70°C and +/- 0.280 ppm

Part Number Example

TCXO3408-622.080000-0

622.080000 MHz operating frequency to six decimal places

0°C to 70°C with +/- 0.280 ppm