



# QEN14

DIL14 Pin Full Size XO – Communications Equipment Application  
*Specification (Rev-B)*

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January 04<sup>th</sup>, 2006

### Electrical Characteristics

Electrical Parameters	Unit	Minimum	Typical	Maximum	Test conditions
Frequency range	MHz	0.4096		150	
Output logic	HCMOS / TTL Output				
Operating temperature range (see table 1)	°C		0 to +70	-40 to +85	Refer to Ordering Information
Storage temperature range	°C	-55		+125	
Power supply voltage (Vcc)	V	+3.3 (± 5%)		+5.0 (± 5%)	Refer to Ordering Information
Frequency Stability (see note 1)	± ppm	15	50	100	Refer to Ordering Information
Aging (First Year)	± ppm			5	Ref at 25°C
Input current (see table 1)	mA				
Output load (see table 2)	HCMOS load	pF	15		
	TTL load	LS-TTL	5		
Duty cycle	%		40/60		Refer to Ordering Information
Rise & Fall time	ns			10	From 10% Vcc to 90% Vcc
Start-up time	ms			10	

**Note 1:** Include 25°C tolerance, operating temperature range, input voltage change, load change, first year aging, shock and vibration.

Frequency range (MHz)	Vcc=5V	Vcc=3.3V
	CI=15 pF	CI=15pF
0.500 to 23.999	20 mA	15 mA
24.00 to 49.999	30 mA	20 mA
50.00 to 69.999	40 mA	30 mA
70.00 to 150.00	60 mA	45 mA

Frequency range (MHz)	Vcc=5V	Vcc=3.3V
	Up to 50.000	50pF
Up to 70.000	30pF	20pF
Up to 150.00	15pF	15pF

Operating Temperature Range	±15ppm	±25ppm	±50ppm	±100ppm
0 to 70°C	Yes	Yes	Yes	Yes
-10 to 70°C	-	Yes	Yes	Yes
-20 to 70°C	-	Yes	Yes	Yes
-40 to 85°C	-	Yes	Yes	Yes

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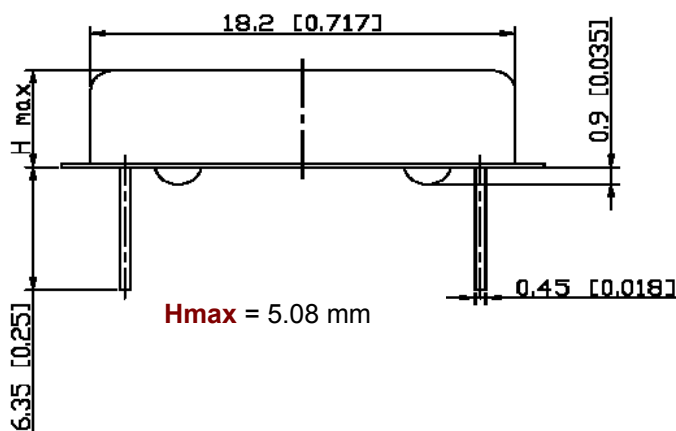
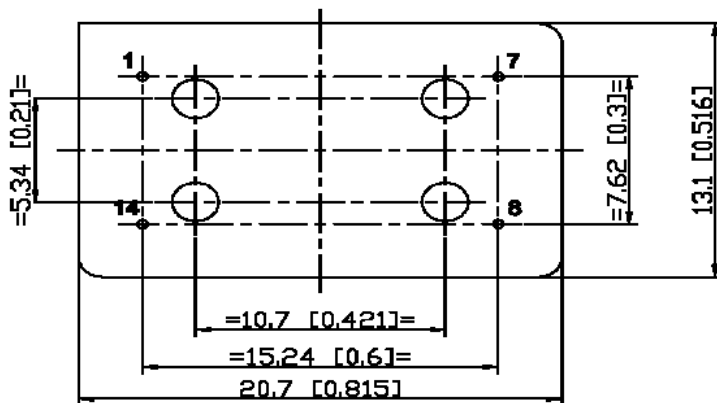
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### ▣ Mechanical Characteristics

#### BOTTOM VIEW



Pin connections	
#1	N.C. or Tri state
#7	Ground
#8	Output
#14	+Vcc

Tri state function	
Pin #1	Output (Pin #8)
Open	Active
"1"	Active
"0"	High Z

Marking	
Line 1	Temex part number
Line 2	Frequency in MHz (6 digits)
Line 3	Date code (YYWW) – Manufacturing code

Example for QEN14H LQ100 / 10MHz  
 ⇨ Line 1 : QEN14H LQ100  
 ⇨ Line 2 : 10.000  
 ⇨ Line 3 : 0601-G

**Packaging** : Antistatic Tube (25pcs/tube)

### ▣ Ordering Information

Part numbering system					
QEN14	H	J	LQ	25	10.000MHZ
↓	↓	↓	↓	↓	↓
Package type	Supply Voltage	Option	Operating temperature range	Frequency stability	Nominal Frequency (MHz)
DIL Package QEN14 : 14 Pin Full Size	H : +5.0V BH : +3.3V	J : Tri-state output R : Duty cycle 45/55%	LQ : 0 to +70°C JQ : -10 to +70°C HQ : -20 to +70°C DT : -40 to +85°C	15 : ±15ppm 25 : ±25ppm 50 : ±50ppm 100 : ±100ppm	Please enter the nominal frequency