

FREQUENCY



**TEMEXPRESS**

# QEN14

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

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# QEN14

## DIL 14 Pin Full Size XO – Communications Equipment Application

Specification (rev-C)

December 20<sup>th</sup>, 2013

### 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.

**Table 1 : Input Current**

Frequency range (MHz)	Vcc=5V	Vcc=3.3V
	Cl=15 pF	Cl=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

**Table 2 : Maximum Output Load**

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

**Table 3 : Maximum Deviation**

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

# QEN14

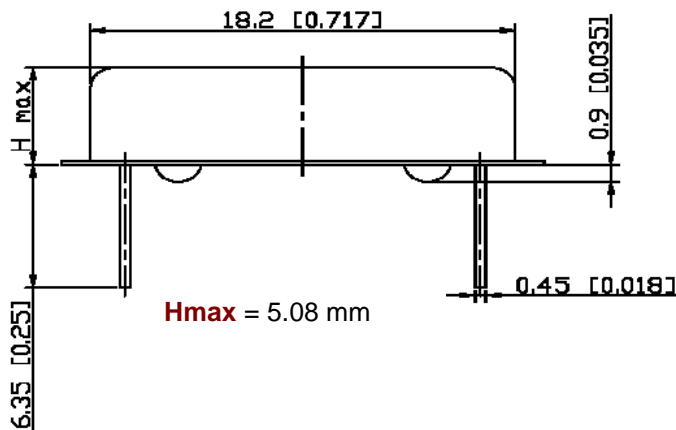
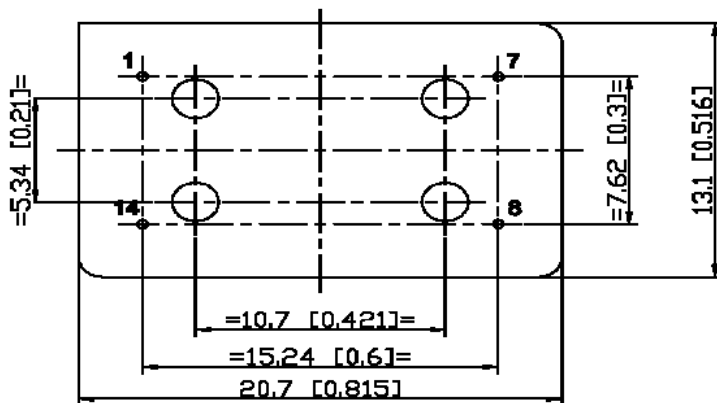
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### ▣ Mechanical Characteristics

#### 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	Temexpress 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 : 1350-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)
<b>DIL Package</b> 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