



QEN08

SMD 2.5x2.0 XO – Communications Equipment Application
Specification (Rev-B)

▣ Electrical Characteristics	P01
▣ Mechanical Characteristics	P02
▣ Ordering Information	P03
▣ Suggested Reflow Soldering profile	P03
▣ Tape Drawing	P04
▣ Reel Drawing	P04

QEN08

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May 09th, 2011

Electrical Characteristics

Electrical Parameters	Unit	Minimum	Typical	Maximum	Test conditions
Frequency range	MHz	1		54	
Output logic	HCMOS / TTL Output				
Operating temperature range (see table 1)	°C		-10 to +70	-40 to +85	Refer to Ordering Information
Storage temperature range	°C	-55		+125	
Power supply voltage (Vcc)	V	+1.5		+3.3	Refer to Ordering Information
Frequency Stability (see note 1)	± ppm	25	50	100	Refer to Ordering Information
Aging (First Year)	± ppm			2	Ref at 25°C
Input current (see table 2)	mA				
Output load	pF			15	
Duty cycle (see note 2)	%		40/60		Refer to Ordering Information
Rise & Fall time	ns			7	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.

Note 2: Duty cycle 45/55% is available on option.

	± 25ppm	± 50ppm	± 100ppm
-10 to +70°C	C	B	A
- 40 to +85°C	G	F	D

Frequency range (MHz)	Vcc=3.3V	Vcc=2.8V	Vcc=1.8V	Vcc=1.5V
	Cl=15pF	Cl=15pF	Cl=15pF	Cl=15pF
1.000 to 9.999	8 mA	7mA	6mA	5mA
10.00 to 34.999	10mA	8mA	7mA	6mA
35.00 to 49.999	25mA	20mA	15mA	15mA
50.00 to 54.000	35mA	30mA	25mA	25mA

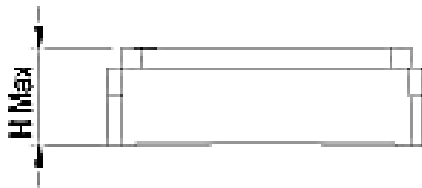
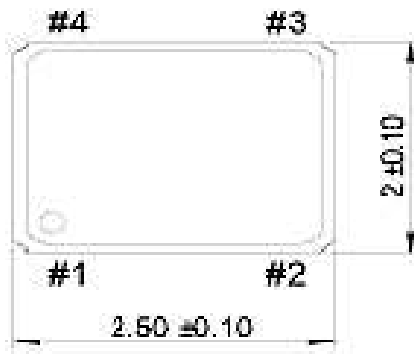
QEN08

SMD 2.5x2.0 XO – Communications Equipment Application
Specification (rev-B)

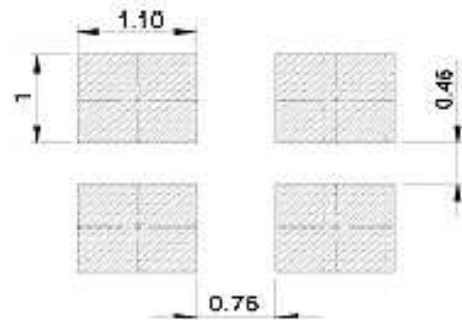
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▣ Mechanical Characteristics

TOP VIEW

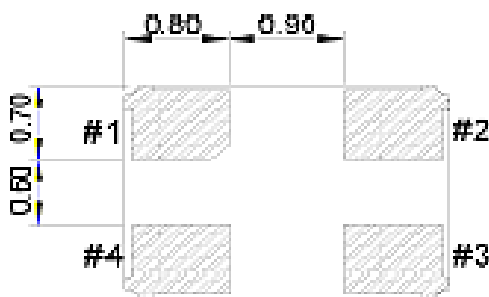


SUGGESTED PAD



Hmax = 0.9 mm

BOTTOM VIEW



Pin connections	
#1	Tri state
#2	Ground
#3	Output
#4	+Vcc

Tri state function	
Pin #1	Output (Pin #3)
Open	Active
"1"	Active
"0"	High Z

Note : 0.01µF bypass capacitor should be placed between Vcc (Pin 4) and GND (Pin 2) to minimize power supply line noise.

Marking	
Line 1	Temex code : VOSxxx
Line 2	Date code : YYWW – Manuf code

Example for QEN08BDA / 26MHz

- ⇒ Line 1 : VOSxxx (Temex code)
- ⇒ Line 2 : YYWW-G

QEN08

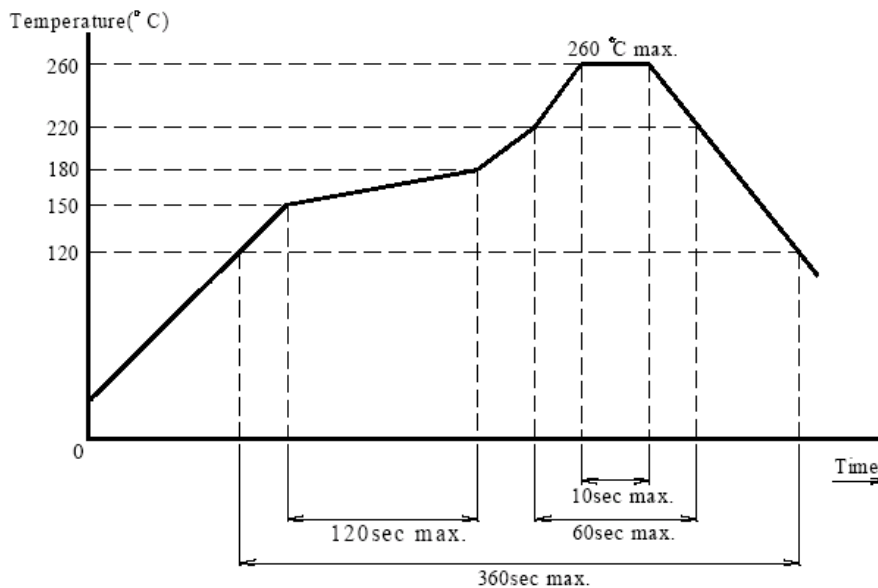
SMD 2.5x2.0 XO – Communications Equipment Application
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May 09th, 2011

Ordering Information

Part numbering system					
QEN08	B	D	A	R	50.000MHZ
Package type	Temperature Stability	Supply Voltage	Output	Output Symmetry Option	Nominal Frequency (MHz)
SMD Package QEN08 : SMD 2.5x2.0	A : ± 100ppm vs -10 to +70°C B : ± 50ppm vs -10 to +70°C C : ± 25ppm vs -10 to +70°C D : ± 100ppm vs -40 to +85°C F : ± 50ppm vs -40 to +85°C G : ± 25ppm vs -40 to +85°C	D : +3.3V M : +2.8V N : +1.8V P : +1.5V	A : HCMOS 15pF	Blank : 40/60% R : 45/55%	Please enter the nominal frequency

Suggested Reflow Soldering Profile

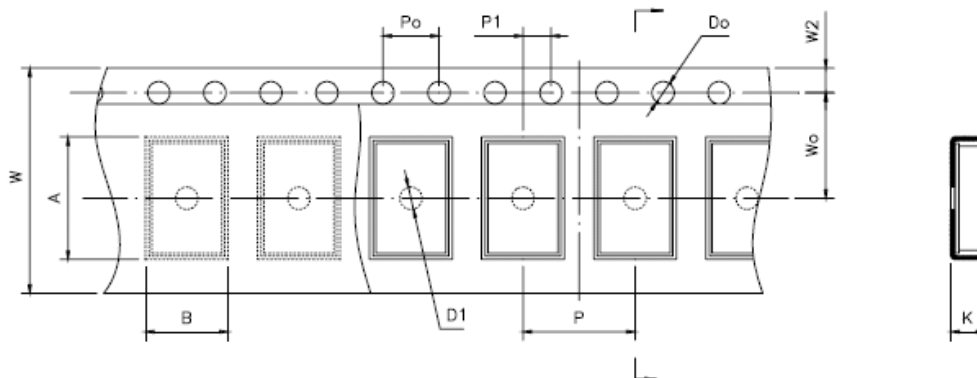


QEN08

SMD 2.5x2.0 XO – Communications Equipment Application
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May 09th, 2011

□ Tape Drawing

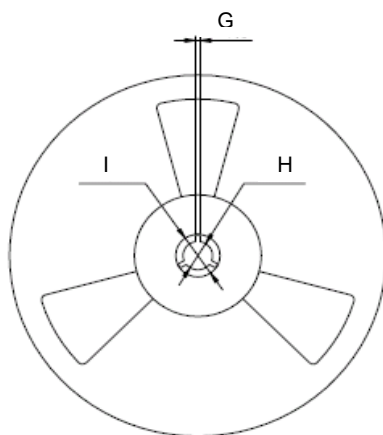


Item	Code	Dimension	Tolerance
Pitch of components	P	4.0	± 0.1
Pitch of sprocket hole	Po	4.0	± 0.1
Width of carrier tape	W	8.0	± 0.3
Width of adhesive tape	W0	1.75	± 0.1
Height of component hole	A	2.75	± 0.1
Length of component hole	B	2.25	± 0.1
Diameter of sprocket hole	Do	∅ 1.5	± 0.1
Total of tape thickness	K	1.0	± 0.1

□ Reel Drawing

Multiple : 3Kpcs per Reel

Unit : mm



Code	Dimension	Tolerance
G	2.5	± 0.1
H	∅ 13.5	± 0.1
I	∅ 21.6	± 0.1
J	60	± 0.1
K	180	± 0.1
L	9.5	± 0.1
M	1.6	± 0.1

