



QEN101

SMD 7x5 XO – Communications Equipment Application
Specification (Rev-F)

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Electrical Characteristics

Electrical Parameters	Unit	Minimum	Typical	Maximum	Test conditions
Frequency range	MHz	1		125	
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	+1.8		+5.0	Refer to Ordering Information
Frequency Stability (see note 1)	± ppm	25	50	100	Refer to Ordering Information
Aging (First Year)	± ppm			5	Ref at 25°C
Input current (see table 2)	mA				
Output load (see note 2)	HCMOS load	pF	15	50	Refer to Ordering Information
	TTL load	LS-TTL	10	50	
Duty cycle (see note 3)	%		45/55		
Rise & Fall time	ns			7	From 10% Vcc to 90% Vcc
Start-up time	ns			10	From 10% Vcc to 90% Vcc

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

Note 2: HCMOS load 50pF or TTL load 50 LS-TTL is only available with 5.0V version.

Note 3: For frequency upper than 50MHz, in 3.3V, 2.5V & 1.8V version, the duty cycle is 40/60%

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

Frequency range (MHz)	Vcc=5V	Vcc=3.3V	Vcc=2.5V	Vcc=1.8V
	CI=15 pF	CI=15pF	CI=15pF	CI=15pF
1.000 to 23.99	20 mA	15 mA	12 mA	10 mA
24.00 to 49.99	30 mA	20 mA	15 mA	12 mA
50.00 to 69.99	40 mA	30 mA	20 mA	15 mA
70.00 to 125	60 mA	45 mA	30mA	25 mA

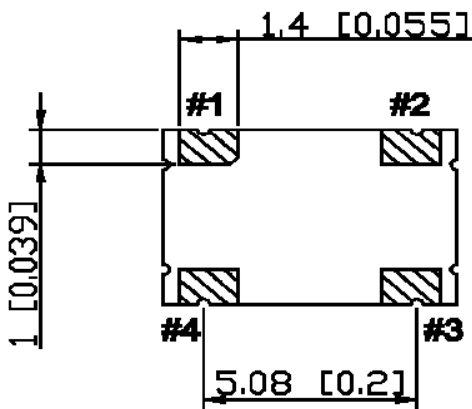
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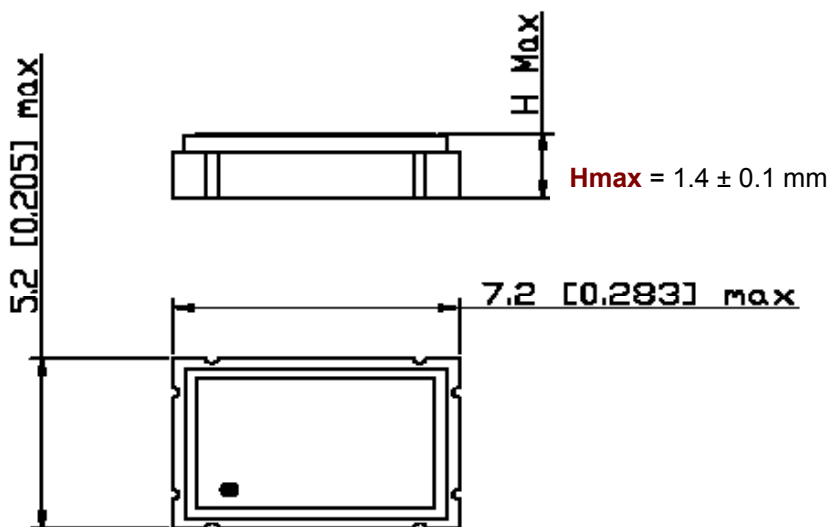
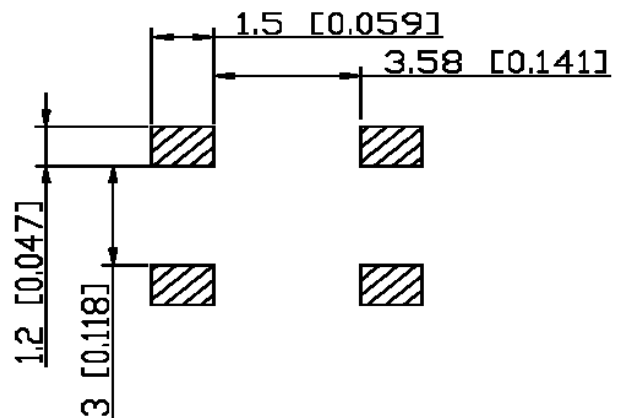
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▣ Mechanical Characteristics

BOTTOM VIEW



SUGGESTED PAD



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

Marking	
Line 1	Manufacturing code + AO + stability/supply voltage/output code
Line 2	Frequency in MHz (6 digits)

Example for QEN101BDA / 50MHz
 ⇒ Line 1 : GAOBDA
 ⇒ Line 2 : 50.000

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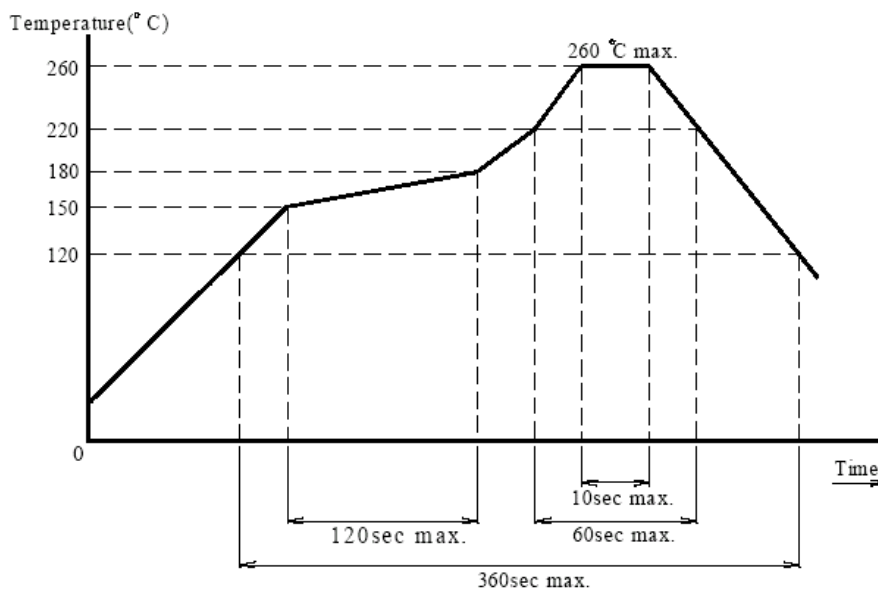
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Ordering Information

Part numbering system				
QEN101	B	D	A	50.000MHZ
Package type	Supply voltage	Temperature Stability	Output	Nominal Frequency (MHz)
SMD Package QEA101 : SMD 7x5	A : + 5.0V D : +3.3V M : +2.5V N : +1.8V	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	A : HCMOS 15pF / 10 LS-TTL B : HCMOS 50pF / 50 LS-TTL	Please enter the nominal frequency

Suggested Reflow Soldering Profile

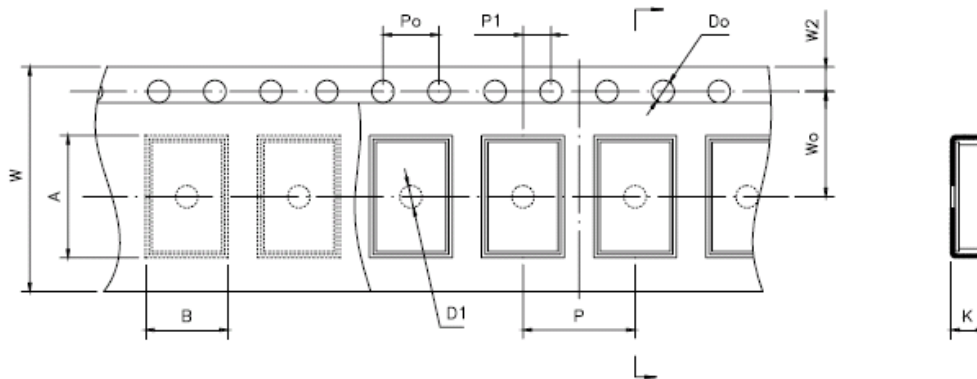


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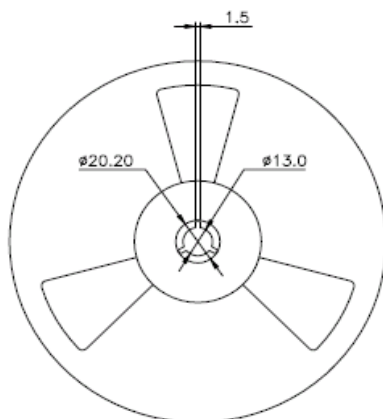
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▣ Tape Drawing



Item	Code	Dimension	Tolerance
Pitch of components	P	8.0	± 0.1
Pitch of sprocket hole	Po	4.0	± 0.1
Length from hole center to component center	P1	2.0	± 0.1
Width of carrier tape	W	16.0	+0.3/-0.1
Width of adhesive tape	W0	7.5	± 0.1
Height of component hole	A	8.18	± 0.1
Width of component hole	B	5.56	± 0.1
Gap of hold down tape and carrier tape	W2	1.75	± 0.1
Diameter of sprocket hole	Do	∅ 1.5	± 0.05
Diameter of feed hole	D1	∅ 1.5	± 0.25
Total of tape thickness	K	2.16	± 0.1

▣ Reel Drawing



Multiple : 1Kpcs per Reel

Unit : mm

