

## QEN62

14 x 9.8 mm, 4 pin Plastic J Lead SMD package



### Frequency and Electrical Characteristics

Parameter	Min.	Typ.	Max.	Unit	Test condition / Description																																													
Nominal frequency (Fn)	1		125	MHz																																														
Operating temperature range		0 to +70	-40 to +85	°C	See 'Order Part Example'																																													
Storage temperature range	-55		+125	°C																																														
Frequency stability over temperature <sup>1</sup>			±50 to ±100	ppm	See 'Order Part Example'																																													
Long-term stability (Ageing)			±3	ppm	Frequency drift over 1 year at 25°C																																													
Power supply voltage(V <sub>CC</sub> )																																																		
3.3V (BH option)	3.135	3.3	3.465	V <sub>DC</sub>	See 'Order Part Example'																																													
5.0V (H option)	4.750	5.0	5.250																																															
Duty cycle	40	50	60	%																																														
Rise & fall time																																																		
1.000 to 30.000MHz			7	ns	From 10% Vcc to 90% Vcc. Vcc = 3.3V or 5V																																													
30.001 to 70.00MHz			5																																															
70.001 to 125.0MHz			4																																															
Start-up time			5	ms																																														
Output logic levels																																																		
Output logic high (V <sub>OH</sub> )	90%Vcc			V <sub>DC</sub>																																														
Output logic low (V <sub>OL</sub> )			10%Vcc																																															
Output load																																																		
HCMOS	15		30	pF																																														
TTL load	1		10	LS-TTL																																														
Input current (C <sub>L</sub> = 15pF)	<table border="1"> <thead> <tr> <th>Frequency range</th> <th>Frequency</th> <th>V<sub>CC</sub> = 5V</th> <th>V<sub>CC</sub> = 3.3V</th> <th>Mode</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1.000 to 23.999 MHz</td> <td>1 MHz</td> <td>3 mA</td> <td>2 mA</td> <td>1/16</td> </tr> <tr> <td>8 MHz</td> <td>5 mA</td> <td>3 mA</td> <td>1/2</td> </tr> <tr> <td>20 MHz</td> <td>7 mA</td> <td>5 mA</td> <td>Fundermental</td> </tr> <tr> <td rowspan="2">24.00 to 49.999 MHz</td> <td>32 MHz</td> <td>10 mA</td> <td>7 mA</td> <td>Fundermental</td> </tr> <tr> <td>48 MHz</td> <td>20 mA</td> <td>15 mA</td> <td>3<sup>rd</sup> overtone</td> </tr> <tr> <td rowspan="2">50.00 to 79.999 MHz</td> <td>51.84 MHz</td> <td></td> <td></td> <td></td> </tr> <tr> <td>60 MHz</td> <td>27 mA</td> <td>18 mA</td> <td>3<sup>rd</sup> overtone</td> </tr> <tr> <td rowspan="2">80.0 to 125.000 MHz</td> <td>66 MHz</td> <td></td> <td></td> <td></td> </tr> <tr> <td>100 MHz</td> <td>30 mA</td> <td>20 mA</td> <td>3<sup>rd</sup> overtone</td> </tr> </tbody> </table>					Frequency range	Frequency	V <sub>CC</sub> = 5V	V <sub>CC</sub> = 3.3V	Mode	1.000 to 23.999 MHz	1 MHz	3 mA	2 mA	1/16	8 MHz	5 mA	3 mA	1/2	20 MHz	7 mA	5 mA	Fundermental	24.00 to 49.999 MHz	32 MHz	10 mA	7 mA	Fundermental	48 MHz	20 mA	15 mA	3 <sup>rd</sup> overtone	50.00 to 79.999 MHz	51.84 MHz				60 MHz	27 mA	18 mA	3 <sup>rd</sup> overtone	80.0 to 125.000 MHz	66 MHz				100 MHz	30 mA	20 mA	3 <sup>rd</sup> overtone
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<sup>1</sup> Include 25°C tolerance, operating temperature range, input voltage change (V<sub>CC</sub> ±5%), load change (15pF ±10%), first year ageing, shock and vibration.

**Order Part Example – QEN62AAB / 3.6864MHZ**

Parameter	Product family and package	Frequency stability (FvT)	Supply voltage (Vcc)	Output	Nominal Frequency (Fn. MHz)
Code	<b>QEN62</b>	<b>A</b>	<b>A</b>	<b>B</b>	<b>3.6864MHZ</b>
Decode	<b>QEN</b> = XO <b>62</b> = Plastic J Lead SMD	<b>A</b> = ±100ppm vs -10 to +70°C <b>B</b> = ±50ppm vs -10 to +70°C <b>D</b> = ±100ppm vs -40 to +85°C <b>F</b> = ±50ppm vs -40 to +85°C	<b>A</b> = 5.0V <b>D</b> = 3.3V	<b>A</b> = HCMOS, 15pF <b>B</b> = ±HCMOS, 30pF*	Please enter Fn

\* Load 30pF is not available with all combinations. Please contact our sales representatives for solutions.

**Model Outline, Recommended Pad Layout and Marking**

**TOP VIEW**

9.8 max

14.0 max

Marking

Marking	Note	
Line 1	QEN62AAB	Product code: See order example
Line 2	3.6864	Frequency in MHz (6 digits)
Line 3	1634-N	Year code (YY): 16 = 2016, Week code (WW): 34 = Week 34 of the year, N = Manufacturing code

**FRONT VIEW**

0.52

1.52

5.08

**SIDE VIEW**

4.7 max

7.62

0.25 min

**RECOMMENDED PAD LAYOUT (TOP VIEW)**

1.27 (x4)

3.81

5.8

3.0 (x4)

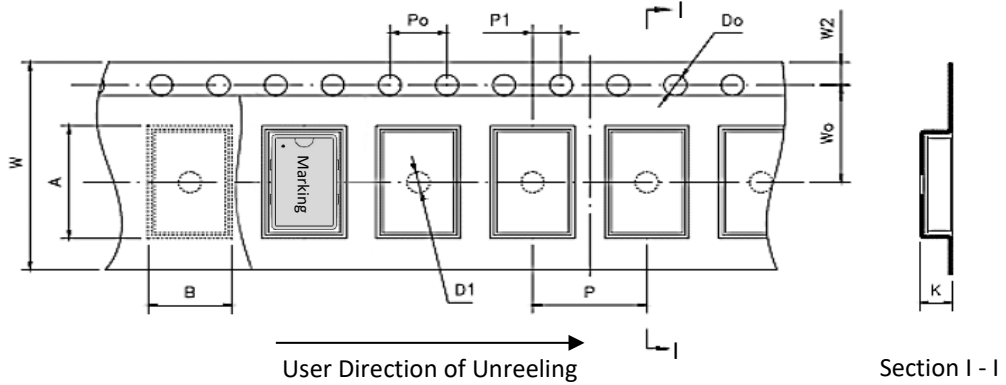
Pin	Connections
1	NC / Tri-state Open = Active, 1 = Active, 0 = High Z
2	GND
3	Output
4	Vcc

**NOTE:**

- Dimension unit is in millimetre.

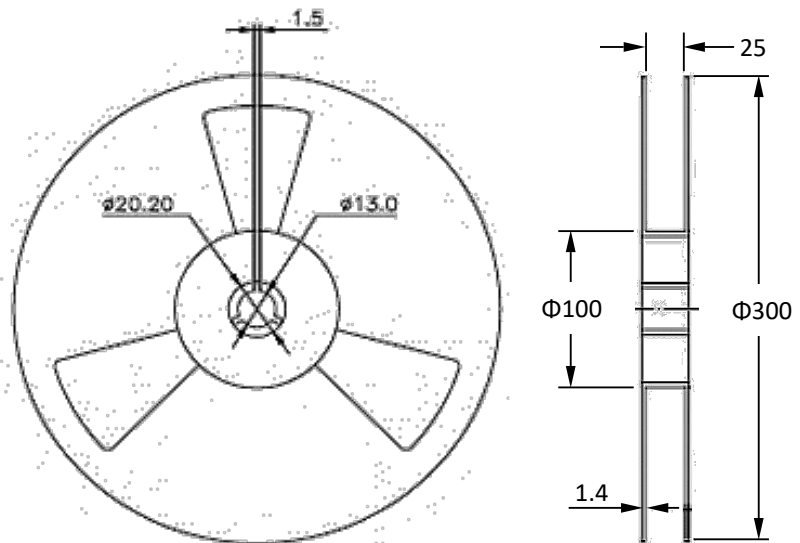
**Packaging**

TAPRE DETAILS:



Parameter	Code	Dimension	Tolerance
Pitch of components	P	12	± 0.1
Pitch of sprocket hole	P <sub>0</sub>	4.0	± 0.1
Length from hole center to component center	P <sub>1</sub>	2.0	± 0.1
Width of carrier tape	W	24.0	±0.3
Width of adhesive tape	W <sub>0</sub>	11.5	± 0.1
Height of component pocket	A	14.65	± 0.1
Width of component pocket	B	9.60	± 0.1
Gap of hold down tape and carrier tape	W <sub>2</sub>	1.75	± 0.1
Diameter of sprocket hole	D <sub>0</sub>	Φ 1.55	± 0.05
Diameter of feed hole	D <sub>1</sub>	Φ 1.55	± 0.25
Total of tape thickness	K	5.6	± 0.1

**REEL DETAILS**



**NOTE:**

- Standard Packing Quantity (SPQ): 1000 pcs/reel
- Unit: mm

### Reflow soldering Profile

