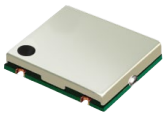
QEA95 / QEA95V

9.6 x 11.4 mm, 4-pin SMD package



Frequency and Electrical Characteristics

Parameter	Min.	Typ.	Max.	Unit	Test condition / Description
Nominal frequency (Fn)	9.6		50	MHz	
Operating temperature range	-40		85	°C	See 'Order Part Example'
Storage temperature range	-55		125	°C	
Power supply voltage (V_{CC})		3.0 to 5.0		V	±5%. See 'Order Part Example'
Frequency adjustment Type QEA95 Type QE95V Type QE95V1	 ±3 ±3 Trimmerless			ppm	Mechanical Trimmer
Preset frequency Type QEA95 Type QE95V Type QE95V1	 ±0.5 ±0.5 ±2			ppm	At 25±2°C
Frequency stability vs temperature			±2.5	ppm	See 'Order Part Example'
Frequency stability vs voltage variation (±5%)			±0.3	ppm	For frequency <28MHz[1]
Frequency stability vs load variation (±10%)			±0.3	ppm	
Long-term stability (Ageing)			±1	ppm	Frequency drift over 1 year at 25°C. For frequency <28MHz[2]
Supply current 9.6MHz ≤ Fn ≤ 16MHz 16MHz ≤ Fn ≤40MHz			 1.5 2.0	mA	With load 10KΩ//10pF
Output voltage 9.6MHz ≤ Fn ≤ 16MHz 16MHz ≤ Fn ≤40MHz			 0.8 0.7	Vp-p	Clipped sine DC-cut
Pulling range Type QEA95 Type QE95V Type QE95V1	 - 5 8		 - 10 14	ppm	 5.0V: Vc = 2.50 ±2.00V 3.3V: Vc = 1.65 ±1.35V 3.0V: Vc = 1.50 ±1.00V
Phase noise Offset: 10Hz Offset: 100Hz Offset: 1kHz Offset: 10kHz Offset: 100kHz			 -110 -130 -148 -155 -160	dBc/Hz	Typical value for 10MHz TCXO

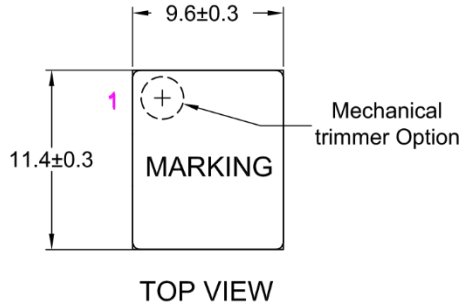
Order Part Example – QEA95 AA0 / 10.000MHz

Parameter	Product and package	Control Voltage (V_C)	Frequency Stability (FvT)	Supply Voltage (Vcc)	Output	Nominal Frequency (Fn)
Code	QEA = TCXO 95 = SMD, 9 .6 x 11.4 mm	= TCXO with trimmer V = VC-TCXO with trimmer V1 = VC-TCXO trimmerless	A = ±2.5ppm vs -30 to 75°C B = ±1.5ppm vs -20 to 70°C C = ±3.5ppm vs -40 to 85°C D = ±1.5ppm vs -40 to 85°C E = ±2.0ppm vs -20 to 70°C	A = +5.0V D = +3.3V E = +3.0V	0 = Clipped sine wave	Please enter Fn in MHz

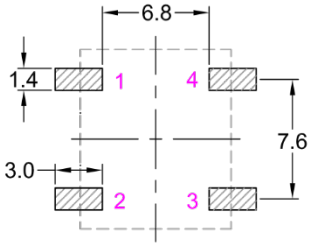
[1] For frequency ≥28MHz, stability vs voltage variation (±5%) is ±1ppm max.

[2] For frequency ≥28MHz, ageing first year ±2ppm max.

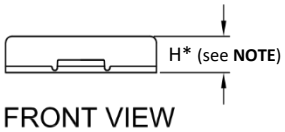
Model Outline, Recommended Pad Layout, Marking and Packaging



TOP VIEW

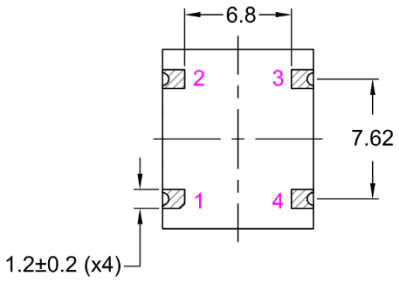


RECOMMENDED PAD LAYOUT
(TOP VIEW)



FRONT VIEW

SIDE VIEW



BOTTOM VIEW

Pin	Connections
1	Vc / NC
2	GND
3	Output
4	Vcc (Supply Voltage)

NOTE:

1. Units are in millimetres (mm)
2. H* – Model height options:
   - For TCXO: H = 1.85 ±0.3 mm
   - For VC-TCXO: H = 2.30 ±0.3 mm.

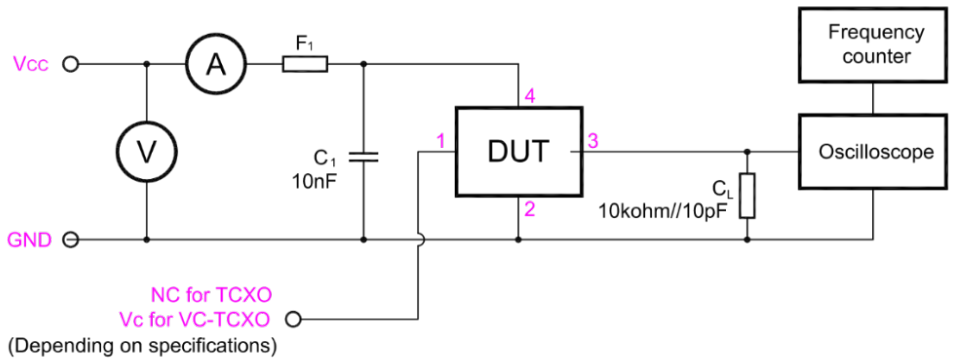
Marking and Example

Marking	Code and Description	Marking Example
Line 1	**X2 X X 0** **X2** Product ID: E2 = QEA95; G2 = QEA95V; H2 = QEA95V1 **X** Temperature Stability (FvT): A = ±2.5ppm vs -30 to 75°C; B = ±1.5ppm vs -20 to 70°C; C = ±3.5ppm vs -40 to 85°C; D = ±1.5ppm vs -40 to 85°C; E = ±2.0ppm vs -20 to 70°C **X** Supply Voltage (Vcc): A = +5.0V; D = +3.5V; E = +3.0V **0** Output: 0 = Clipped sine wave	**E2 A A 0** • E2 = QEA95 • A = ±2.5 ppm over -30 to 75°C • A = +5.0 V • 0 = Clipped sinewave
Line 2	**######** • 6-character format: five numerals and one decimal point.	**10.000** • 10.000 = 10.000MHz
Line 3	**YYWW-M** • YY: Year code (last two digits of the year) • WW: Week code (2-digit calendar week number) • -M: Manufacturing code (hyphen followed by a capital letter)	**2523-R** • 25 = Year 2025 • 23 = Week 23 • -R = Rakon

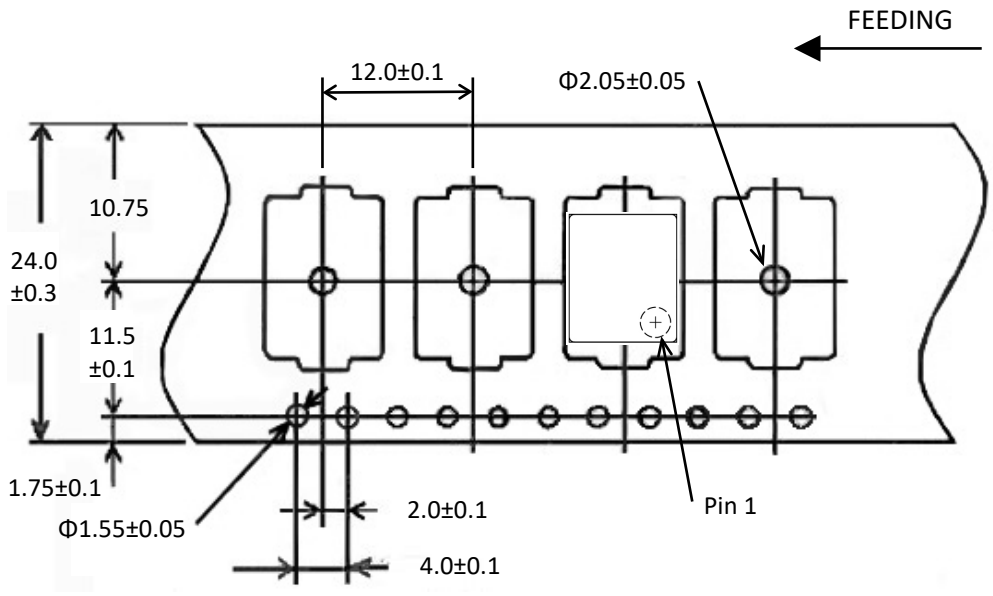
Environmental Specifications

Parameter	Test Condition / Description
Shock	Random drop onto concrete 10 times from a height of 75 cm
Moisture resistance	RH: 90% at 40°C for 200 hours
Vibration	Frequency: 10 – 55 Hz Cycle: 2.00 mm. 3-direction time: 2 hours for each X, Y, Z axis

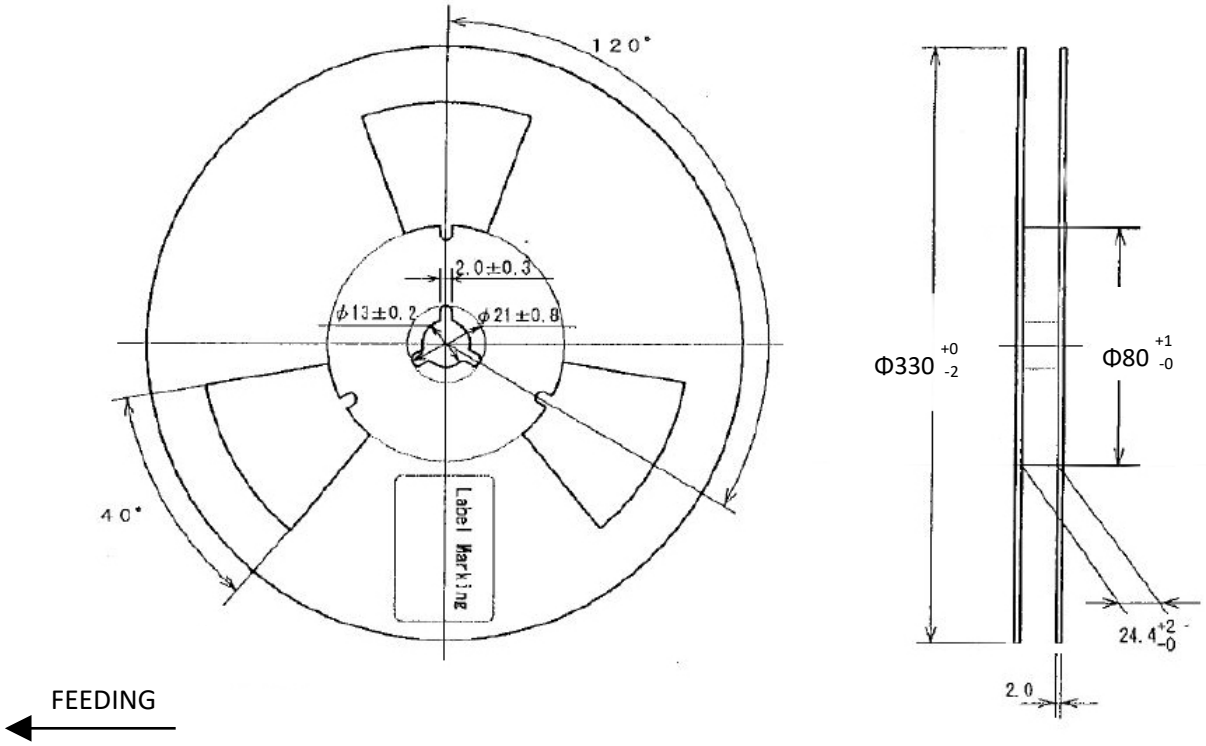
Test Circuit



Tape Details



Reel Details



Reflow Soldering Profile