



QEA05 / QEA05V

SMD 5x3.2 VC-TCXO – Wireless Applications
Specification (Rev-D)

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Electrical Characteristics

- Output : Clipped SineWave
- Load : 10KΩ//10pF
- Standard frequency : 12.8 – 13.0 – 19.2 – 19.68 – 19.8 – 26 MHz

Electrical Parameters	Unit	Minimum	Typical	Maximum	Test conditions
Frequency Range	MHz	10		30	
Operating Temperature Range	°C	0 to 55		-40 to 85	Refer to Ordering Information
Storage Temperature Range	°C	-40		85	
Power supply	V	2.7		3.6	Refer to Ordering Information
Frequency Stability Preset frequency (25°C) Vs Temperature range Vs Voltage variation (± 5%) Vs Load variation (± 10%)	ppm		2.5	0.5 0.4 0.2	Refer to Ordering Information
Aging	ppm			± 1.0	First year at 25°C
Supply Current 12.8MHz ≤ Fo ≤ 15.000MHz 15.0MHz < Fo ≤ 20.000MHz 20.0MHz < Fo ≤ 26.000MHz	mA			1.8 2.0 2.2	With load 10KΩ//10pF
Start-Up time	ms			3	
Output voltage	Vp-p		1.2		
Pulling Range	ppm/V		10		Vcont = 1.5 ± 1.0V
Phase Noise offset 10Hz offset 100Hz offset 1KHz offset 10KHz	dBc/Hz		-80 -110 -125 -130		Typical value for 12.8MHz TCXO.

Environmental Specifications

Item	Specifications
Vibration Test	Freq : 10 ~ 55Hz Cycle : 1.52mm, 3 directions each 2 hours
Shock Test	Conditions : Part is fixed to 200g test fixture 5 cycles drops onto concrete from 1.5m height in 3 directions

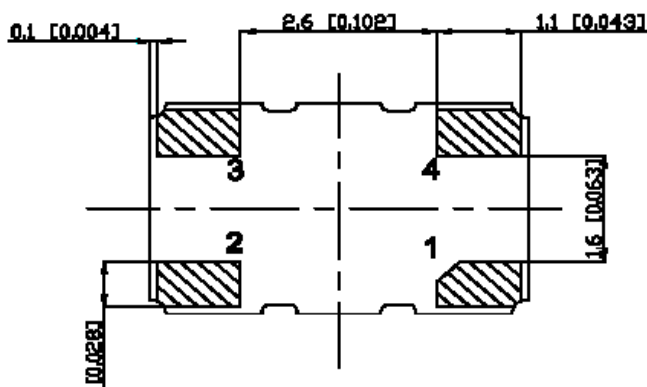
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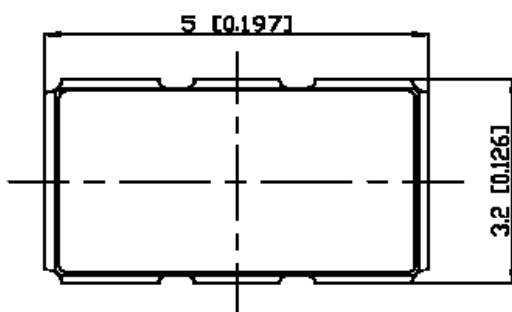
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▣ Mechanical Characteristics

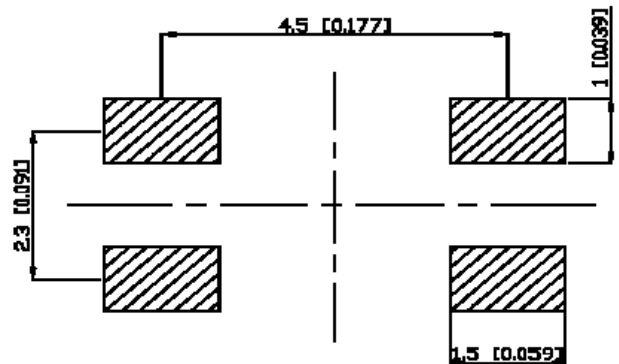
BOTTOM VIEW



Hmax = 1.55 mm



SUGGESTED PAD



Pin connections

#1	Vcont or NC
#2	Ground
#3	Output
#4	+Vcc

Marking

Line 1	Product code (VMSxxx)
Line 2	Frequency in MHz (6 digits)

Exemple for QEA05V AE0 / 12.8MHz

- ⇒ Line 1 : VMS107
- ⇒ Line 2 : 12.800

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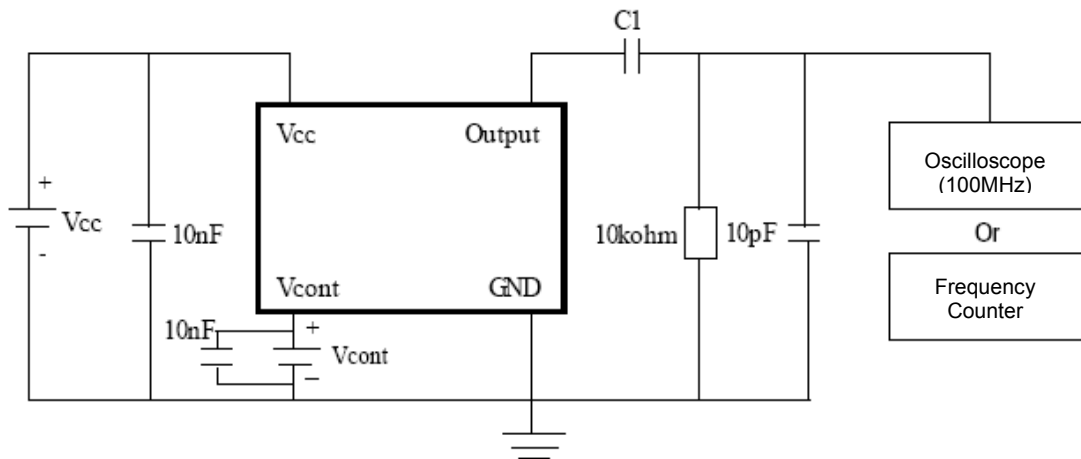
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Ordering Information

Part numbering system					
QEA05	V	A	E	O	12.800MHZ
Package type	Voltage Control	Temperature Stability	Supply voltage	Output	Nominal Frequency (MHz)
SMD Package QEA05 : SMD 5x3.2	Blank : TCXO V : VC-TCXO	A : ± 2.5ppm vs –30 to +75°C B : ± 1.5ppm vs –20 to +70°C C : ± 1.0ppm vs 0 to +55°C D : ± 3.5ppm vs –40 to +85°C	D : + 3.3V E : + 3.0V L : +2.8V	0 : Clipped sine wave	Please enter the nominal frequency

Test Circuit



Remarks

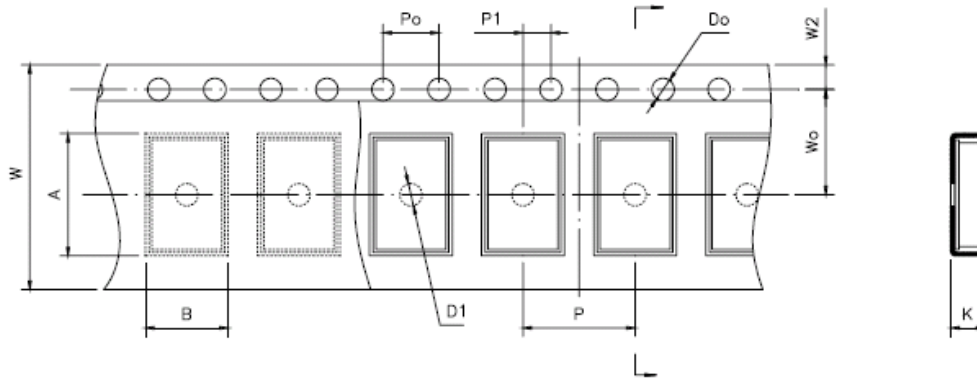
- √ C1 capacitance is needed for DC blocking
- √ Capacitance 10nF can be added on Vcont.

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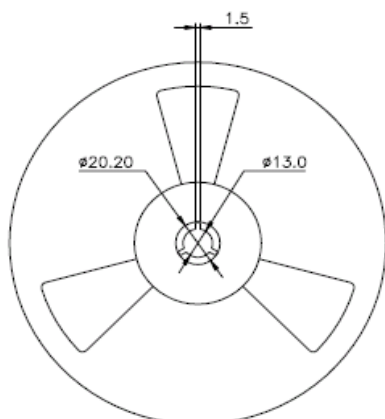
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▣ Tape Drawing



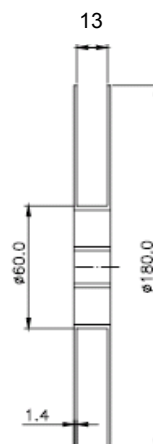
Item	Code	Dimension	Tolerance
Pitch of components	P	8.0	± 0.1
Pitch of sprocket hole	Po	4.0	± 0.1
Length from hole center to component center	P1	2.0	± 0.1
Width of carrier tape	W	12.0	± 0.3
Width of adhesive tape	W0	5.5	± 0.05
Height of component hole	A	5.5	± 0.05
Width of component hole	B	3.45	± 0.05
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	2.2	± 0.1

▣ Reel Drawing



Multiple : 1Kpcs per Reel

Unit : mm



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 Suggested Reflow Soldering Profile

