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ACT7VC14 - VCXO

The ACT7VC14 family is a range of cost competitive VCXOs housed in A 14 pin through hole package. It offers good reliability at a low cost across a wide range of frequencies. The devices can be tuned between $\pm 100\text{ppm}$ & $\pm 250\text{ppm}$ by varying the voltage on pin one.. Applications include Communications, Instrumentation PI circuits, Consumer applications and many more. In addition to standard specifications it is also possible to supply some "custom" specifications (Please enquire).

Compatible with Eu Directive
2002/EC - RoHS



Specification

Parameter	Symbol	Specification	Condition
Frequency Range	fo	1.00 ~ 160.0 MHz	Please specify
Temp Operating Range	Topr	-0° ~ +70°C & -20 ~ 70°C	Please specify
Storage Temp Range	Tstg	-40 ~ 100°C	
Frequency Stability		$\pm 5\text{ppm} \sim \pm 40\text{ppm}$	See table one
Aging	Fa	$\pm 5\text{ppm}$ 1st year (Then 1ppm p/yr typical, thereafter	
Supply Voltage	Vdd	3.3VDC $\pm 5\%$ or 5.0VDC $\pm 5\%$	Please specify
Supply Current	Idd	<50MHz 25mA max <90MHz 40mA max <125MHz 60mA max <160MHz 80mA max	
Duty Cycle	Tw/t	45/55%	(Square Wave)
Rise & Fall Time	Tr/Tf	<6ns	(Square Wave)
Start up time		5ms typical, 10ms max	See table two
Output Load	N/CL	5 TTL 02 15 STTL 15pf max	
Pulling capability		$\pm 100\text{ ppm min} \sim \pm 250\text{ppm}$	See table one
Slope polarity		Positive or negative	Please specify
Control voltage range	Vc	0.5VDC $\pm 4.5\text{V}$	
Centre Frequency		+2.5VDC $\pm 2.5\text{VDC}$	
Linearity		10% max	
Input impedance		50K Ω min	
Modulation bandwidth		<15kHz	
Output waveform		ACMOS, HCMOS, TTL, Clipped sine & Sine	Please specify

For package details / options, please see following pages.

Please note that all parameters can not necessarily be specified in the same device

Customer to specify : Frequency, Supply Voltage, Polarity & Package Number / Tri-state

In line with our ongoing policy of product evolution and improvement, the above specification may be subject to change without notice

ISO9001:2000 Registered

For quotations or further information please contact us at:

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Issue : 1 S8
Date : 08/11/04



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TABLE ONE - PULLING RANGE & TEMPERATURE FREQUENCY STABILITY (TFC)

Temperature	Pull Range	TFC	Temperature	Pull Range	TFC
0 - +70°C	±100PPM Min.	± 5PPM	0 - +70°C	±250PPM Min.	±30PPM
0 - +70°C	±100PPM Min.	±10PPM	-20 - +70°C	±100PPM Min.	±10PPM
0 - +70°C	±100PPM Min.	±20PPM	-20 - +70°C	±100PPM Min.	±20PPM
0 - +70°C	±100PPM Min.	±30PPM	-20 - +70°C	±100PPM Min.	±30PPM
0 - +70°C	±150PPM Min.	± 5PPM	-20 - +70°C	±150PPM Min.	±10PPM
0 - +70°C	±150PPM Min.	±10PPM	-20 - +70°C	±150PPM Min.	±20PPM
0 - +70°C	±150PPM Min.	±20PPM	-20 - +70°C	±150PPM Min.	±30PPM
0 - +70°C	±150PPM Min.	±30PPM	-20 - +70°C	±200PPM Min.	±20PPM
0 - +70°C	±200PPM Min.	±10PPM	-20 - +70°C	±200PPM Min.	±30PPM
0 - +70°C	±200PPM Min.	±20PPM	-20 - +70°C	±200PPM Min.	±40PPM
0 - +70°C	±200PPM Min.	±30PPM	-20 - +70°C	±250PPM Min.	±20PPM
0 - +70°C	±250PPM Min.	±10PPM	-20 - +70°C	±250PPM Min.	±30PPM
0 - +70°C	±250PPM Min.	±20PPM	-20 - +70°C	±250PPM Min.	±40PPM

TABLE TWO - OUTPUT WAVEFORM AND LOAD CHARACTERISTICS

Output Waveform	Frequency Range	Oscillation State	Output Characteristics
Clipped Sine Wave	8MHz - 40MHz 40MHz - 160MHz	F: Fundamental Q Overtone	Load: 10kΩ /10pF Output level: >1Vp-p
TTL	1MHz - 40MHz 40MHz - 160MHz	F: Fundamental Q Overtone	Load: Max. 10 low power consumption TTL gates "1" level: >+2.4VDC; "0" level: <+0.2VDC Duty cycle: 45/55 Rise/fall time: <6ns
HCMOS	1MHz - 40MHz 40MHz - 160MHz	F: Fundamental Q Overtone	Load: Max. 10 low power consumption TTL/HCMOS "1" level: >+4.5VDC; "0" level: <+0.5VDC Duty cycle: 45/55 Rise/fall time: <6ns
ACMOS	1MHz - 40MHz 40MHz - 160MHz	F: Fundamental Q Overtone	Load: Max. 10 low power consumption TTL/ACMOS "1" level: >+4.5VDC; "0" level: <+0.5VDC Duty cycle: 45/55 Rise/fall time: <6ns
Sine Wave	8MHz - 40MHz 40MHz - 160MHz	F: Fundamental Q Overtone	Load: Nominal value 50Ω Output level: >2dBm Harmonic Attenuation: <-25dB Noise Attenuation: <-75dB

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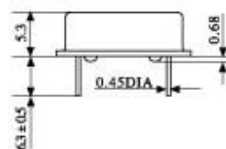
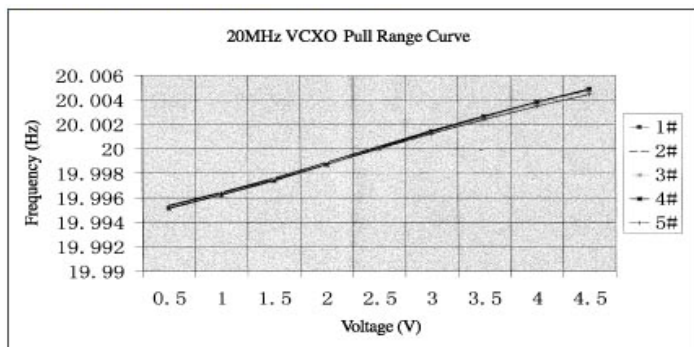
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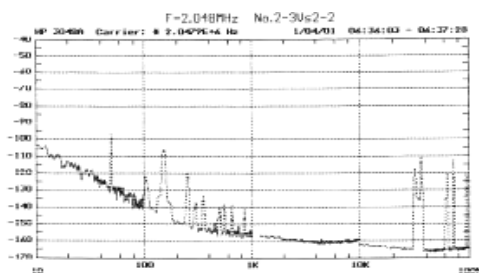
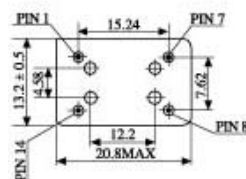
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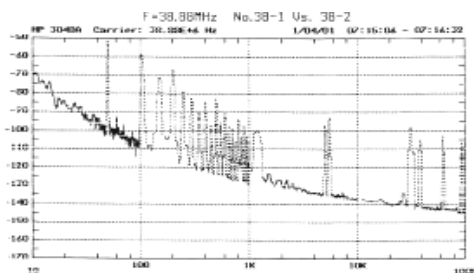


PIN FUNCTION:

PIN 1 – Control Voltage
PIN 7 – GND/Case
PIN 8 – Output
PIN 14 – Power Supply



2.048MHz VCXO Phase Noise Curve



38.888MHz VCXO Phase Noise Curve

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