

## Typical Applications

CDMA2000 and UMTS Base Stations  
 Test and Measurement Equipment

## Features

Ultra-High Stability  
 Excellent Temperature Stability  
 SC-Cut Crystal Crystal



## Previous Vectron Model Numbers

4895, OC-050, CO-330

## Frequency range

4 MHz – 15 MHz

## Standard frequencies

5; 10; 15MHz

## Frequency stabilities<sup>1</sup> [SC Cut Crystal – Standard]

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code
vs. operating temperature range (peak to peak stability)	-0.4		+0.4	ppb	0 ... +70°C	C049
	-0.2		+0.2	ppb	0 ... +70°C	C029
	-0.4		+0.4	ppb	-20 ... +70°C	D049
Parameter	Min	Typ	Max.	Units	Condition	
Initial tolerance	-50		+50	ppb	at time of shipment, nominal EFC	
vs. supply voltage change	-0.1		+0.1	ppb	V <sub>S</sub> ± 5%	
vs. load change	-0.1		+0.1	ppb	Load ± 5%	
vs. aging /1 day	-0.5		+0.5	ppb	after 72 hours of operation	
vs. aging /1 day	-0.2		+0.2	ppb	after 7 days of operation	
vs aging /1 Year	-20		+20	ppb	after 72 hours of operation	
vs. aging / year (following years)	-10		+10	ppb		
Warm-up Time			5	minutes	to ± 10ppb of final frequency (1 hour reading) @ +25°C	

## Supply voltage (Vs)

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Supply voltage [Standard]	11.4	12.0	12.6	VDC		SV120
Supply voltage [Standard]	4.75	5.0	5.25	VDC		SV050
Power consumption @+12V			12	Watts	during warm-up	
			4	Watts	steady state @ +25°C	
Power consumption @+5V			10	Watts	during warm-up	
			4	Watts	steady state @ +25°C	

## RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Signal [Standard]					HCMOS	RFH
Load		15		pF		
Signal Level (Vol)			0.5	VDC	15pF load	
Signal Level (Voh)	4.5			VDC	15pF load	
Duty cycle	45		55	%	@ (Voh-Vol)/2	
Signal [Option]					Sinewave	RFS
Load		50		Ω		
Output Power	+5.0	+7.0	+9.0	dBm	50 Ohm load	
Harmonics			-30	dBc	50 Ohm load	
Sub-Harmonics			-40	dBc	50 Ohm load	

## Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Tuning Range	±0.25	±0.50	±0.75	ppm	
Linearity			20	%	
Tuning Slope	Positive				
Control Voltage Range	0.0	2.5	5.0	VDC	

## Reference Voltage Output (Vref)

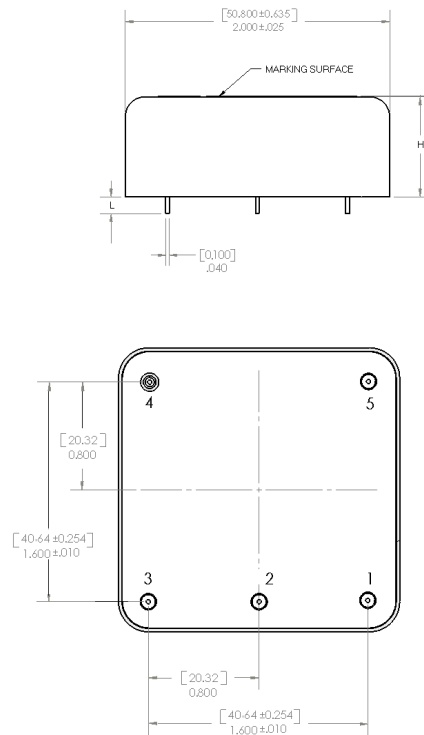
Parameter	Min	Typ	Max.	Units	Condition
Reference Voltage		N/A		VDC	See Note 5

## Enclosures

### Type A

#### Package Codes:

Code	Height "H"	Pin Length "L"
A1	25.40	6.35
A2 <sup>5</sup>	19.00	6.35
A3	38.07	6.35
A4	17.27	6.35



Dimensions: mm

#### Pin Connections

- 1 Electronic Frequency Control Input (EFC)
- 2 Reference Voltage Output (Option)
- 3 RF Output
- 4 Ground (Case)
- 5 Supply Voltage Input (Vs)

## Additional parameters

Parameter	Min	Typ	Max.	Units	Condition	
Phase Noise <sup>3</sup>			-90	dBc/Hz	1 Hz	at 10 MHz
			-120	dBc/Hz	10 Hz	
			-135	dBc/Hz	100 Hz	
			-140	dBc/Hz	1 kHz	
			-140	dBc/Hz	>10 kHz	
Weight			140	g		

## Absolute Maximum Ratings

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			28	V	
Output Load			50	pF	with HCMOS signal
			25	Ohms	with Sinewave signal
Operable temperature range	-55		+85	°C	
Storage temperature range	-55		+125	°C	

## How to Order this Product:

Step 1	Use this worksheet to forward the following information to your factory representative:				
Model	Stability Code	Supply Voltage Code	RF Output Code	Package Code	Frequency
C4700		SV120			
<i>Example: C4700</i>	<i>C049</i>	<i>SV120</i>	<i>RFH</i>	<i>A1</i>	<i>10.000Mhz</i>

Step 2	The factory representative will then respond with a Vectron Model Number in the following configuration:		
Model	Package Code	Dash	Dash Number
C4700	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N = C4700A1-0001

### Notes:

- 1 Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
- 2 Unless otherwise stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C)
- 3 Phase noise degrades with increasing output frequency.
- 4 Subject to technical modification.
- 5 Contact factory for availability.

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