

Typical Applications

Base Stations
 Test Equipment
 Synthesizers
 Digital Switching

Features

Very High Stability
 Low Aging
 SC-Cut Crystal Standard



Previous Vectron Model Numbers

4884

Frequency range

4 MHz – 15 MHz

Standard frequencies

5; 10 MHz

Frequency stabilities¹ [SC Cut Crystal – Standard]

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code
vs. operating temperature range (Referenced to +25°C)	-5		+5	ppb	0 ... +70°C	C509
	-7		+7	ppb	-20 ... +70°C	D709
	-10		+10	ppb	-40 ... +70°C	E108
Parameter	Min	Typ	Max.	Units	Condition	
Initial tolerance	-250		+250	ppb	at time of shipment, nominal EFC	
vs. supply voltage change	-1.0		+1.0	ppb	V _S ± 5%	
vs. load change	-1.0		+1.0	ppb	Load ± 5%	
vs. aging /1 day	-0.5		+0.5	ppb	after 72 hours of operation	
vs aging /1 Year	-50		+50	ppb	after 72 hours of operation	
vs. aging / year (following Years)	-30		+30	ppb		
Warm-up Time			10	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 [Option]	14.25	15.0	15.75	VDC		SV150
Power consumption			6.0	Watts	during warm-up	
			1.5	Watts	steady state @ +25°C	

RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Signal [Standard]	HCMOS					RFH
Load		15		pF	with 15pF load with 15pF load @ (Voh-Vol)/2	
Signal Level (Vol)			0.5	VDC		
Signal Level (Voh)	4.5			VDC		
Duty cycle	40		60	%		
Signal [Option]	Sinewave					RFS
Load		50			50 Ohm load 50 Ohm load	
Output Power	+5.0	+7.0	+9.0	dBm		
Harmonics			-30	dBc		

Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Tuning Range	±0.30	±0.60	±1.0	ppm	
Linearity			20	%	
Tuning Slope	Positive				
Control Voltage Range	0.0	2.5	5.0	VDC	

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Vectron International
 Headquarters
 267 Lowell Road
 Hudson, New Hampshire 03051
 +1-888-328-7661 tel
 +1-888-329-8328 fax

Vectron International LLC.
 100 Watts Street
 Mount Holly Springs, PA 17065
 USA
 +1 717-486-3411 tel
 +1 717-486-5920 fax

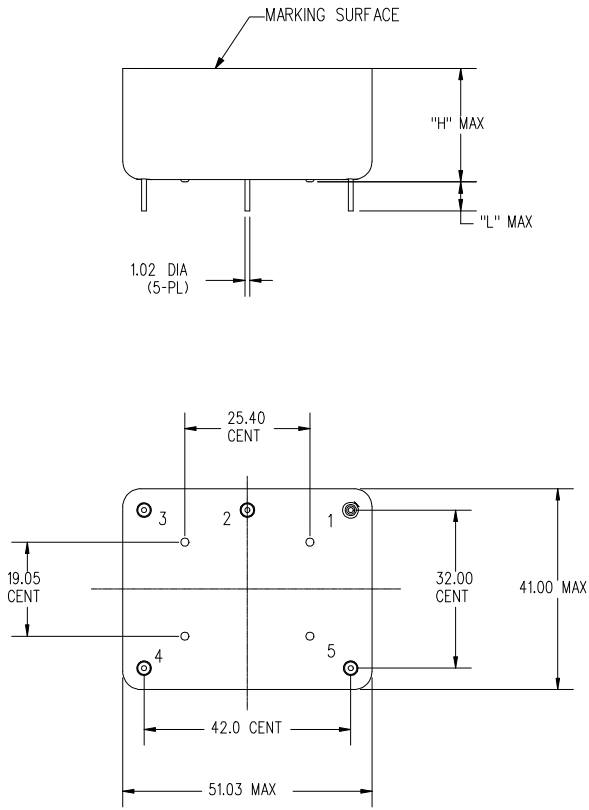
Vectron international GmbH & Co. KG
 Landstrasse
 D-74924 Neckarbischofsheim
 Germany
 +49-07268-801-0 tel
 +49-07268-801-281 fax

Vectron Asia Pacific Sales Office
 Unit 3119 31st Floor, Jin Mao Tower, 88
 Century Boulevard, Shanghai,
 P.R. China 200120
 +86 21 28909740 tel.
 +86 21 28909240 fax

Reference Voltage Output (Vref)

Parameter	Min	Typ	Max.	Units	Condition
Reference Voltage	4.7	4.9	5.1	VDC	

Enclosures

Type A		
Package Codes:		
Code A1	Height "H" 25.40	Pin Length "L" 6.40
		
Dimensions: mm		
Pin Connections		
<ol style="list-style-type: none"> 1 Ground (Case) 2 Electronic Frequency Control Input(EFC) 3 Reference Voltage Output 4 Supply Voltage Input (Vs) 5 RF Output 		

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition	
Phase Noise ³			-95	dBc/Hz	1 Hz	at 10Mhz
			-125	dBc/Hz	10 Hz	
			-145	dBc/Hz	100 Hz	
			-150	dBc/Hz	1 kHz	
			-155	dBc/Hz	10 kHz	
Weight		53		g		
Processing & Packing	Handling & processing note					

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
C4650					

Example: C4650 C509 SV120 RFH A1 10Mhz

Step 2	The factory representative will then respond with a Vectron Model Number in the following configuration:		
Model	Package Code	Dash	Dash Number
C4650	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N = C4650A1-0001

Notes:

- Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
- 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)
- Phase noise degrades with increasing output frequency.
- Subject to technical modification.
- Contact factory for availability.