

## Typical Applications

Base Stations  
 Test Equipment  
 Synthesizers  
 Digital Switching

## Features

Surface Mount Package  
 Reflow Process Compatible  
 AT-Cut and SC-Cut Crystal Options  
 Compact Package



## Previous Vectron Model Numbers

OCO700

## Frequency range

6 MHz – 60 MHz

## Standard frequencies

8.192; 10; 12, 12.8; 16.384; 20; 32.768; 38.88, 61.44MHz

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

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code
vs. operating temperature range (Referenced to +25°C)	-50		+50	ppb	-20 ... +70°C	D508
	-100		+100	ppb	-20 ... +70°C	D107
	-100		+100	ppb	-40 ... +85°C	F107
Parameter	Min	Typ	Max.	Units	Condition	
Initial tolerance	-500		+500	ppb	at time of shipment, nominal EFC	
vs. supply voltage change	-10		+10	ppb	V <sub>s</sub> ± 5%	
vs. load change	-10		+10	ppb	Load ± 5%	
vs. aging / day	-5.0		+5.0	ppb	after 30 days of operation	
vs. aging / year	-250		+250	ppb	after 30 days of operation	
Warm-up Time			3	minutes	to ± 100ppb of final frequency (1 hour reading) @ +25°C	

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

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code
vs. operating temperature range (Referenced to +25°C)	-10		+10	ppb	-20 ... +70°C	D108
	-20		+20	ppb	-20 ... +70°C	D208
	-20		+20	ppb	-40 ... +85°C	F258
Parameter	Min	Typ	Max.	Units	Condition	
Initial tolerance	-200		+200	ppb	at time of shipment, nominal EFC	
vs. supply voltage change	-2.0		+2.0	ppb	V <sub>s</sub> ± 5%	
vs. load change	-5.0		+5.0	ppb	Load ± 5%	
vs. aging / day	-1.0		+1.0	ppb	after 30 days of operation	
vs. aging / year	-75		+75	ppb	after 30 days of operation	
Warm-up Time			3	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]	4.75	5	5.25	VDC		SV050
Supply voltage [Option]	11.4	12.0	12.6	VDC		SV120
Supply voltage [Option]	3.135	3.3	3.465	VDC		SV033
Power consumption			3.0	Watts	during warm-up	
			1.0	Watts	steady state @ +25°C	

## RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Signal [Standard]	HCMOS					RFH
Load		15		pF	with Vs=12.0V or 5.0V and 15pF load with Vs=3.3V and 15pF load with Vs=12.0V or 5.0V and 15pF load with Vs=3.3V and 15pF load @ (Voh-Vol)/2	
Signal Level (Vol)			0.5	VDC		
Signal Level (Voh)	4.5		0.3	VDC		
Duty cycle	3.0		55	%		
	45					

## Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Tuning Range	±1.0	±1.75	±2.5	ppm	with SC Cut Crystal
	±3.0	±5.0	±8	ppm	with AT Cut Crystal
Linearity			5	%	
Tuning Slope	Positive				
Control Voltage Range	0.0	2.0	4.0	VDC	with Vs=5.0VDC
	0.0	2.0	4.0	VDC	with Vs=12VDC
	0.0	1.4	2.8	VDC	with Vs=3.3VDC

## Reference Voltage Output (Vref)

Parameter	Min	Typ	Max.	Units	Condition
Reference Voltage	3.92	4.0	4.08	VDC	with Vs=5.0VDC
	4.9	5.0	5.1	VDC	with Vs=12VDC
	2.75	2.8	2.85	VDC	with Vs=3.3VDC

## Additional parameters

Parameter	Min	Typ	Max.	Units	Condition
Phase Noise <sup>3</sup>			-90	dBc/Hz	1 Hz with 10 MHz SC Cut
			-120	dBc/Hz	10 Hz
			-140	dBc/Hz	100 Hz
			-145	dBc/Hz	1 kHz
			-150	dBc/Hz	10 kHz
Phase Noise <sup>3</sup>			-75	dBc/Hz	1 Hz with 10 MHz AT Cut
			-105	dBc/Hz	10 Hz
			-130	dBc/Hz	100 Hz
			-140	dBc/Hz	1 kHz
			-150	dBc/Hz	10 kHz
Weight			14	g	
Processing & Packing	Handling & processing note				

## Absolute Maximum Ratings

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7.0	V	with Vs=5.0VDC
			15.0	V	with Vs=12VDC
			7.0	V	with Vs=3.3VDC
Output Load			50	pF	
Operable temperature range	-55		+85	°C	
Storage temperature range	-55		+125	°C	

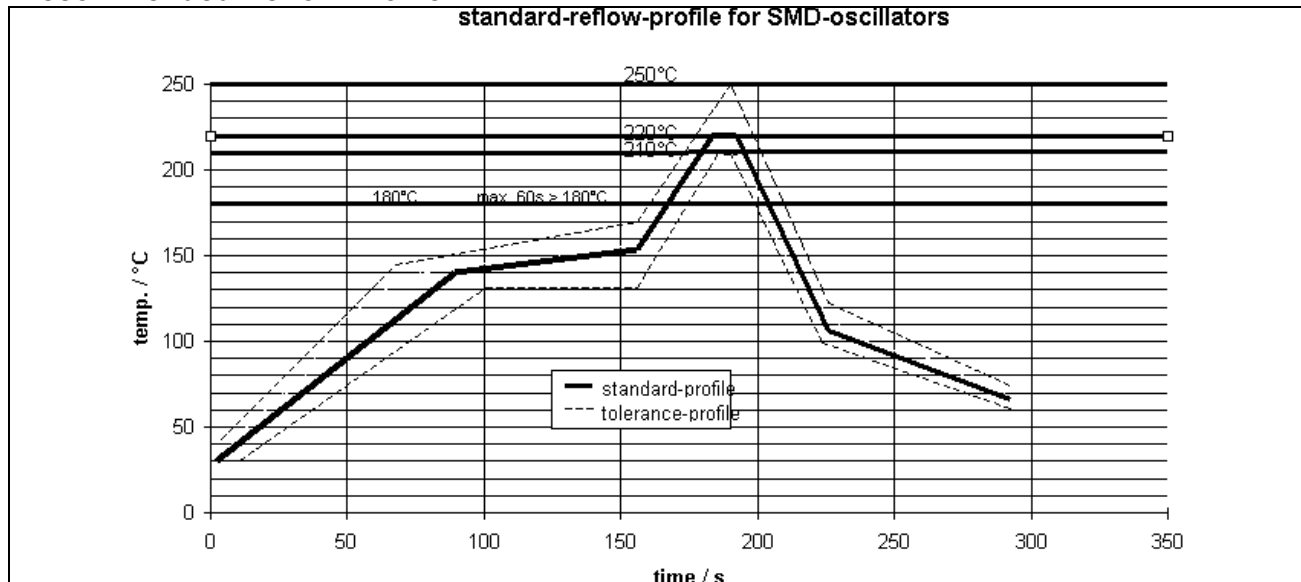
<b>Type A</b>		
Package Codes:		
Code A1	Height "H" 15.0	Pin Length "L" NA
Dimensions: mm		
Pin Connections		
<ol style="list-style-type: none"> <li>1 RF output</li> <li>2 GND, Case</li> <li>3 Control Voltage (Vc)</li> <li>4 Reference Voltage Output</li> <li>5 Oven Control Output</li> <li>6 GND, Case</li> <li>7 Supply Voltage Vs</li> </ol> <p>* Pin 5 must be remain unconnected.</p>		

**Standard Shipping Method**

Enclosure Type	Tape width W [mm]	Quantity per meter	Quantity per reel	Dimension P	
Type B and C	44	37.5	280	32	

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## Recommended Reflow Profile



## 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
	C4505					
<i>Example:</i>	C4505	D107	SV050	RFH	A1	20MHz

Step 2	The factory representative will then respond with a Corning Model Number in the following Configuration:			
	Model	Package Code	Dash	Dash Number
	C4505	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N = C4505A1-0001

### 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.