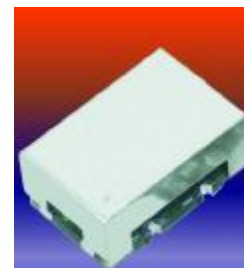


Typical Applications

Base Stations
 Test Equipment
 Switching
 Portable Equipment

Features

Surface Mount Package
 Reflow Process Compatible
 AT-Cut Crystal



Previous Vectron Model Numbers

SVO50; SVO100; SVO110

Frequency range

1 MHz – 200 MHz; 622 MHz

Standard frequencies

16.384; 30.720; 32.768; 38.880 MHz;
 51.840; 52.00; 68.736; 77.760 MHz; 155.52 MHz

Frequency stabilities¹ [Frequency < 80 MHz]

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code ⁵
vs. operating temperature range (Referenced to +25°C)	-15.0		+15.0	ppm	-20 ... +70°C	D105
Parameter	Min	Typ	Max.	Units	Condition	
Initial tolerance	-10.0		+10.0	ppm	@vc=Vs/2 fo < 80 MHz	
vs. supply voltage change	-3.0		+3.0	ppm	V _S ± 5%	
vs. load change	-1.0		+1.0	ppm	Load ± 10% fo < 80 MHz	
vs. aging /1. Year	-3.0		+3.0	ppm		
vs. aging / year (following Years)	-1.0		+1.0	ppm		

Frequency stabilities¹ [Frequency > 80 MHz]

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code ⁵
vs. operating temperature range (Referenced to +25°C)	-30.0		+30.0	ppm	-40 ... +85°C	F305
Parameter	Min	Typ	Max.	Units	Condition	
Initial tolerance	-15.0		+15.0	ppm	@vc=Vs/2 fo > 80 MHz	
vs. supply voltage change	-3.0		+3.0	ppm	V _S ± 5%	
vs. load change	-2.0		+2.0	ppm	Load ± 10% fo > 80 MHz	
vs. aging /1. Year	-3.0		+3.0	ppm		
vs. aging / year (following Years)	-1.0		+1.0	ppm		

Supply voltage

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Supply voltage (Vs)	4.75	5.0	5.25	VDC		SV050
Current consumption			40	mA	@ HCMOS	
Current consumption			90	mA	@ PECL	
Supply voltage (Vs)	3.135	3.3	3.465	VDC		SV033
Current consumption			30	mA	@ LVCMOS	
Current consumption			80	mA	@ LVPECL	
Current consumption			25	mA	@ LVDS	

RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Signal					HCMOS	RFH
Load		15.0		pF		
Rise and Fall time			5	ns	@ 15 pF 10 to 90 %	
Duty cycle	40		60	%	@ Vs/2	
Signal					PECL	RFP
Load		50		Ω		
Rise and Fall time			1	ns	Vs - 2V	
Duty cycle	45		55	%	20 to 80 %	
Signal					LVDS	RFL
Load		100		Ω		
Rise and Fall time			1	ns		
Duty cycle	40		60	%	10 to 90 %	

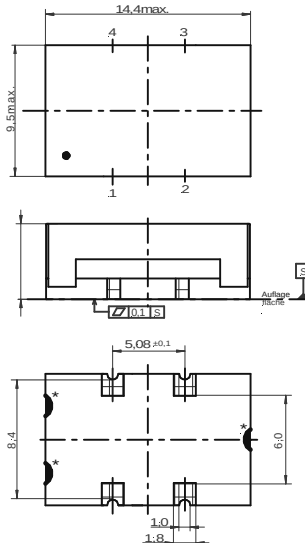
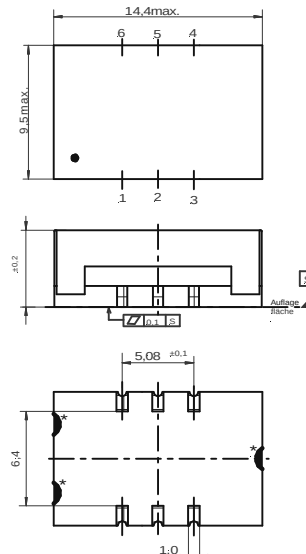
Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Tuning Range	±75.0 ±100.0	±90.0 ±140.0	+200.0 ±200.0	ppm ppm	Frequency > 40MHz Frequency <40MHz and 155.52 MHz
Linearity			10	%	
Tuning Slope		Positive			
Control Voltage Range	0.0 0.5	1.65 2.5	3.3 4.5	VDC VDC	with Vs=3.3VDC with Vs=5.0VDC
Frequency control input impedance	10			k Ω	

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition
Phase Noise		-75		dBc/Hz	10 Hz @155 MHz
		-110		dBc/Hz	100 Hz PECL
		-135		dBc/Hz	1 kHz 3,3V
		-142		dBc/Hz	10 kHz
		-142		dBc/Hz	100 kHz
Jitter		1		ps RMS	@ 10 kHz to 20 MHz
Weight			2	g	
Processing & Packing	handling&processing note				

Enclosures

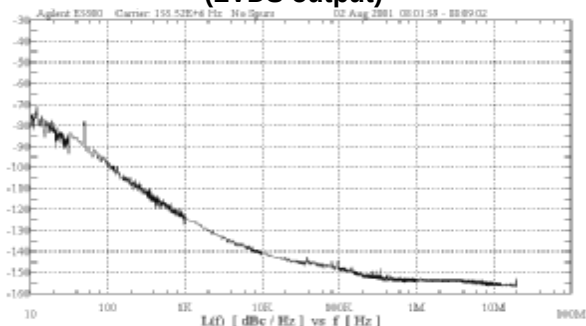
Type G168A for HCMOS and LVHCMOS Version			Type G183B for PECL; LVPECL and LVDS Version		
Package Codes:					
Code A1	Height "H" 5,9	Pin Length "L" NA	Code B1	Height "H" 5,9	Pin Length "L" NA
G168 H = 5,9 ; G168 A 			G183 H = 5,9 ; G183 B 		
Dimensions: mm			Dimensions: mm		

Pin Connections		Pin Connections			
1 Control Voltage (Vc) 2 Ground (Case) 3 RF Output 4 Supply Voltage Input (Vs) Outline Drawing: G168A		1 Control Voltage (Vc) 2 N/C / Enable (optional) 3 Ground (Case) 4 RF Output 5 Complementary RF Output 6 Supply Voltage Input (Vs) Outline Drawing: G183B			
	true table	LVDS		LVPECL	
	Pin 2	Pin 4	Pin 5	Pin 4	Pin 5
	High	Data	compl. Data	Low	High
	Open	Data	compl. Data	Data	compl. Data
	Low	High Tristate	High Tristate	Data	compl. Data
	Marking				
	C5310A1-xxxx frequency * C AYYWW				

Absolute Maximum Ratings

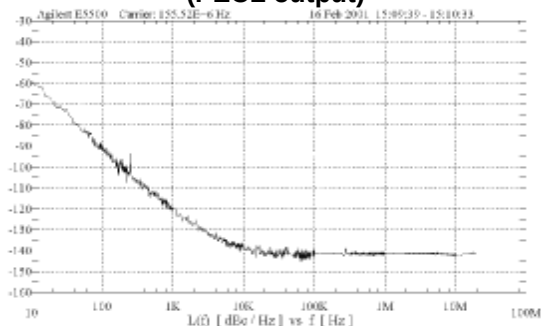
Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7	V	
Operable temperature range	-30		+80	°C	
Storage temperature range	-40		+90	°C	

Typical Phase Noise and Jitter (LVDS output)



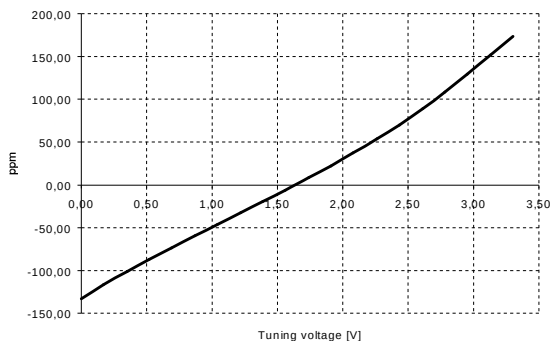
Frequency range [Hz]	S _φ (f) [dB]	Jitter [ps rms]
500Hz to 1.5MHz	-83.76dB	0.066ps
65kHz to 1.5MHz	-87.46dB	0.043ps
12kHz to 20MHz	-78.47dB	0.122ps

(PECL output)

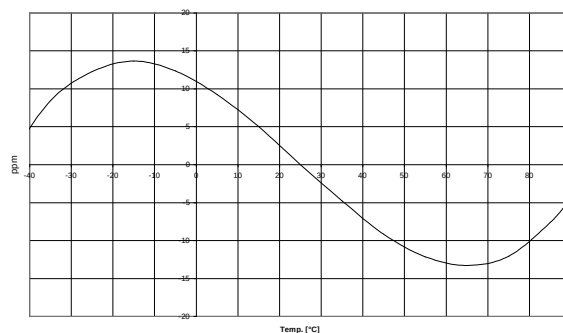


Frequency range [Hz]	S _φ (f) [dB]	Jitter [ps rms]
500Hz to 1.5MHz	-73.96dB	0.205ps
65kHz to 1.5MHz	-75.87dB	0.165ps
12kHz to 20MHz	-65.34dB	0.553ps

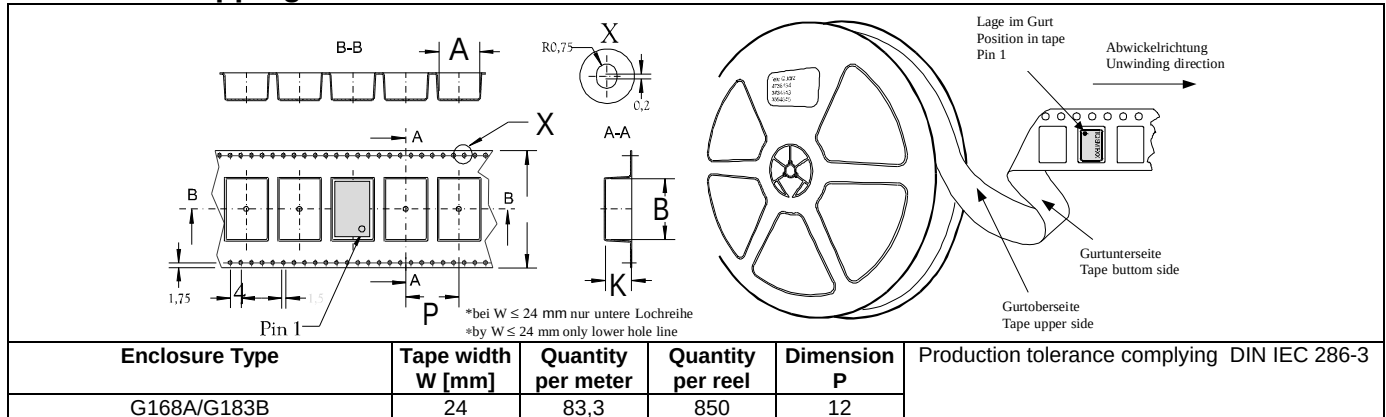
Typical tuning slope



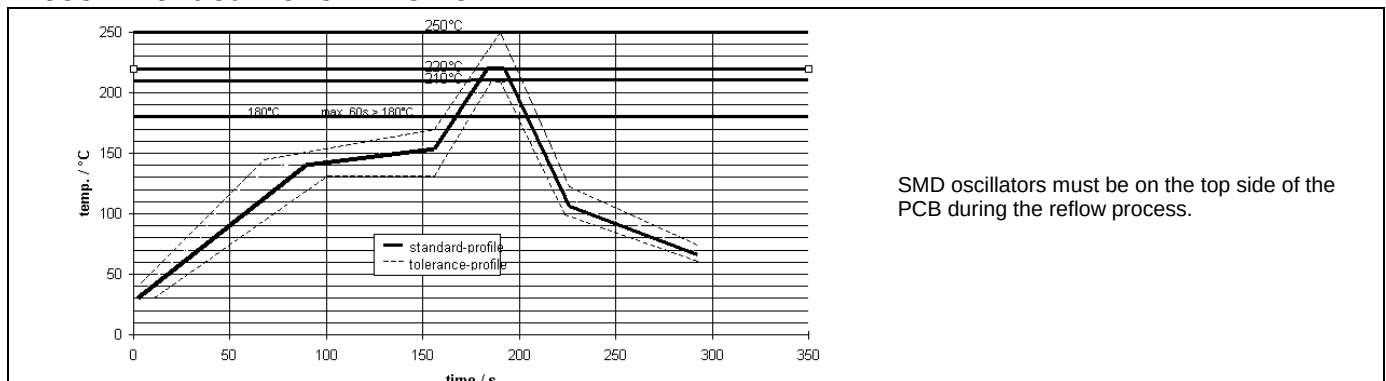
Typical frequency stability vs tp



Standard Shipping Method



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
C5310				
Example: C5310 D105 SV050 RFH A1				

Step 2 The factory representative will then respond with a Vectron Model Number in the following Configuration:			
Model	Package Code	Dash	Dash Number
C5310	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N = C5310A1-0001

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.

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.