

Helping Customers Innovate, Improve & Grow



Features

Surface Mount Package
Reflow Process Compatible
Low Phase Noise
Build in PPL-Circuit

Typical Applications

Base Stations
Test Equipment
Measurement

Previous Vectron Model Number	C3310
Output Frequency Range	10 MHz – 160 MHz
Standard Frequencies	10; 25; 26; 39.3216; 52; 56; 61.44; 77.76; 104 MHz 122.88; 153.6; 155.52; 160 MHz

Reference Frequency

Parameter	Min	Typ	Max	Units	Condition
Input frequency	2		100	MHz	± 2 ppm
Signal	HCMOS				HCMOS / similar sinewave
Reference Level	0.5		4	V _{pp}	
Reference Input Impedance	2			kΩ	

Output Frequency

Parameter	Min	Typ	Max	Units	Condition
Output frequency	10		160	MHz	
Signal	HCMOS				@ 15 pF 10 to 90 % @ Vs/2
Load		15.0		pF	
Rise and Fall time			5	ns	
Duty cycle	40		60	%	

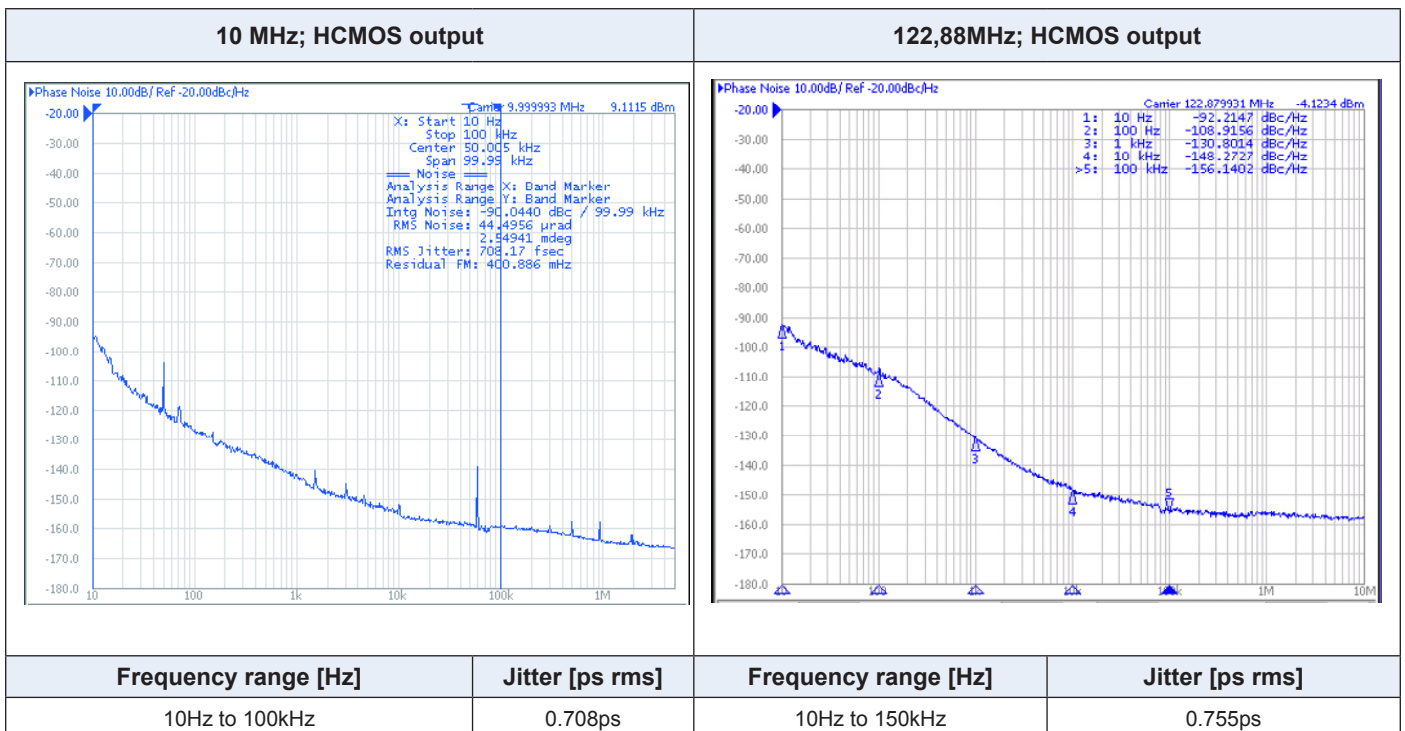
Supply Voltage (Vs)

Parameter	Min	Typ	Max	Units	Condition
Supply voltage [Standard]	3.135	3.3	3.465	VDC	
Current consumption			50	mA	steady state @ +25°C & 3.3VDC

Additional Parameters

Parameter	Min	Typ	Max	Units	Condition
Phase Noise ³		-90		dBc/Hz	10 Hz @ 122,88 MHz
		-110		dBc/Hz	100 Hz HCMOS
		-131		dBc/Hz	1 kHz
		-148		dBc/Hz	10 kHz
		-156		dBc/Hz	100 kHz
		-157		dBc/Hz	1 MHz
Jitter		0.77		ps RMS	@ 10Hz .. 150kHz
Weight			9	g	
Processing & Packing	Handling & processing note				
Operating temperature range	-20		+70	°C	
Operable temperature range	-30		+85	°C	
Storage temperature range	-55		+125	°C	

Typical Phase Noise and Jitter



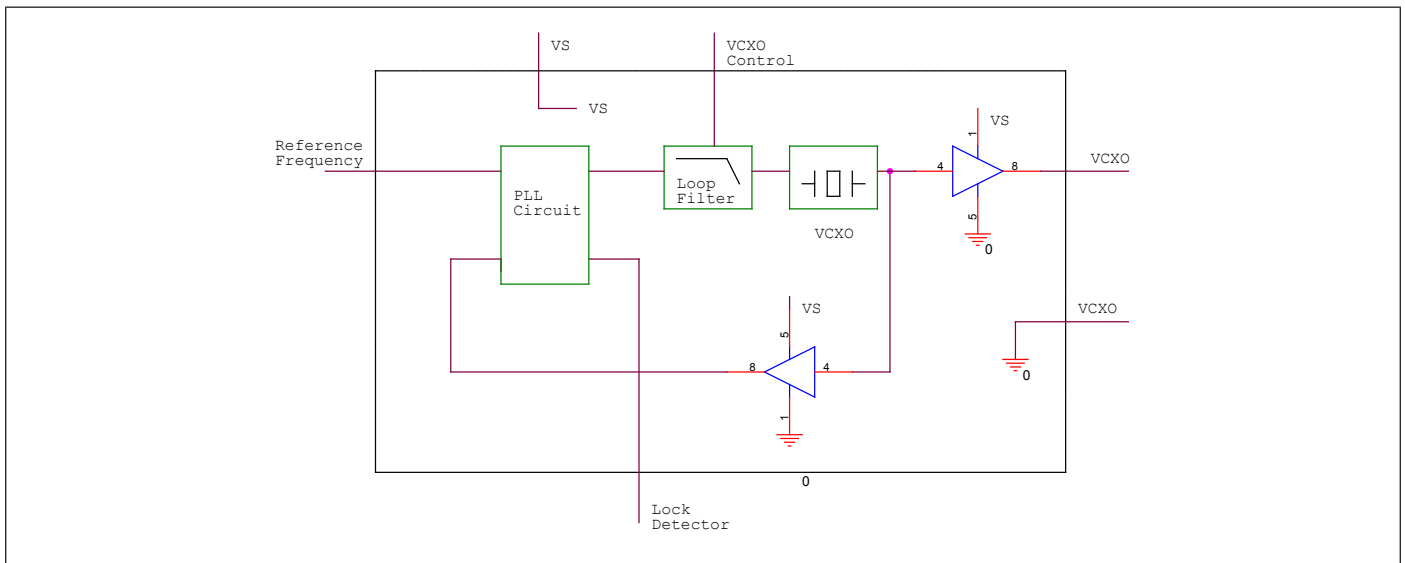
Enclosure

Type G218B Input : Single ended (HCMOS or Sinewave) Output : Single ended HCMOS	
Height "H" 5.9	Pin Length "L" NA
<p style="text-align: center;">G 218 H = 5.9 : G 218 B H = 2.5 : G 218 C</p> <p style="text-align: center;">Dimensions : mm</p>	
Pin Connections	Description
1 Ref. Frequency in	High stable input frequency for synchronisation
2 VCXO Control	Test output of the control voltage for the VCXO Only for modul test or observance
3 GND	Ground connection. Keep traces physically short and connect immediately to ground plane for best performance
4 RF-OUT	RF synchronised output.
5 Lock Detector Output	Test output signal for PLL lock detected. High signal → PLL in lock Low signal → PLL out of lock Only for modul test or observance
6 Vs	Power Supply Pin
Marking	
FX-501 Frequency ● AYYWW	

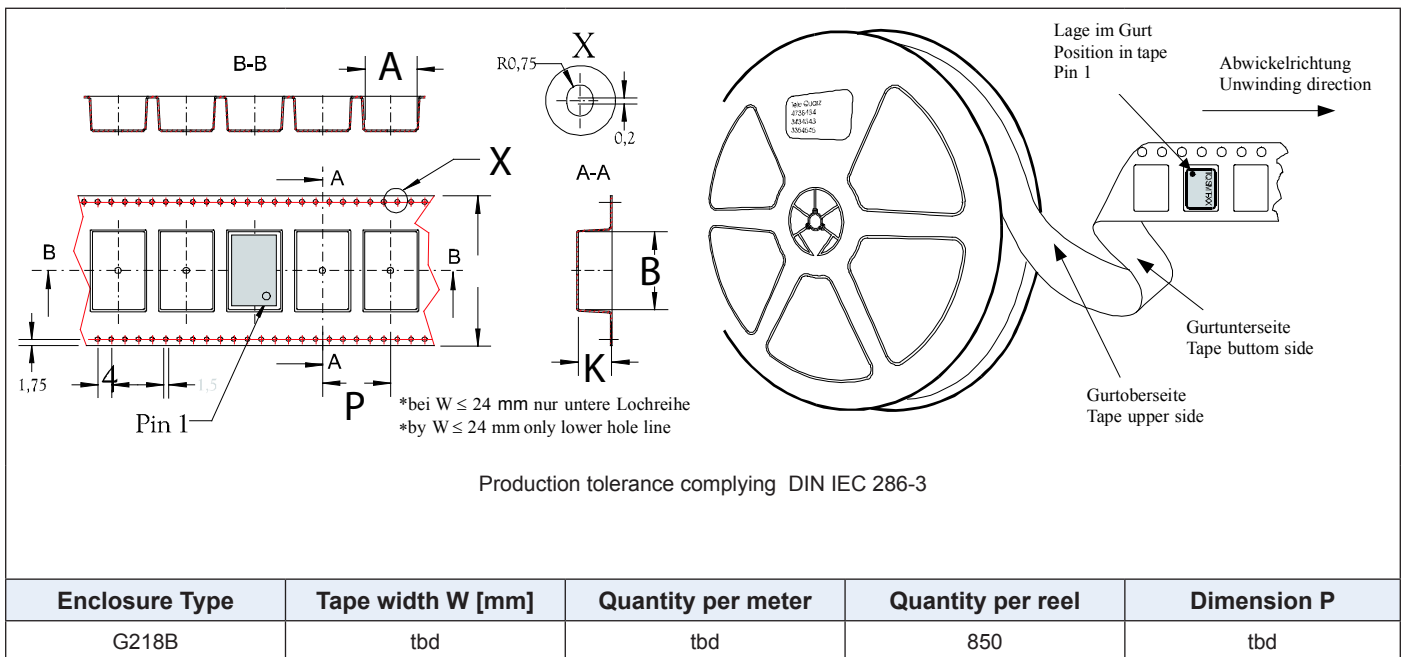
Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units	Condition
Supply voltage (Vs)			6.0	V	
Maximum output load @ CMOS			40	pF	

Block Diagram



Standard Shipping Methode

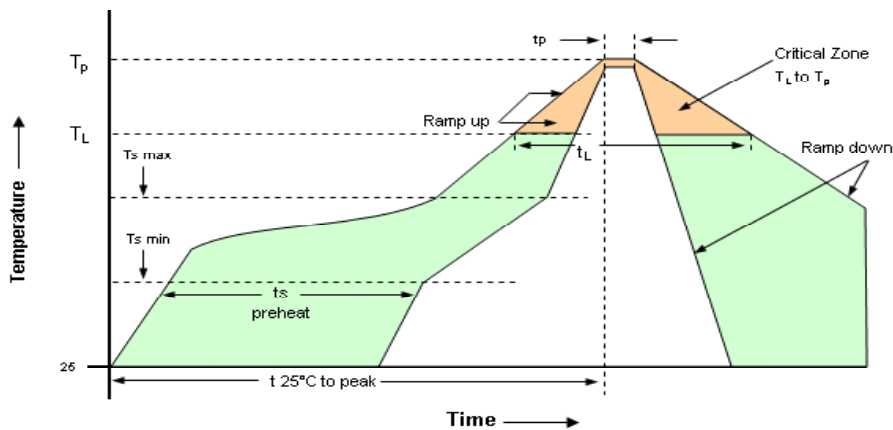


Notes:

- 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.

Recommended Reflow Profile

Solderprofile:



Profile Feature	Pb-Free Assembly/ Sn-Pb Assembly	Profile Feature	Pb-Free Assembly/ Sn-Pb Assembly
Average ramp-up rate (T_L to T_p)	3°C/second max.	Time 25°C to Peak Temperature	8 minutes max.
Preheat -Temperature Min T_{smin} -Temperature Min T_{smax} -Time (min to max) t_s	150°C 200°C 60-180 seconds	Time maintained above -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
T_{smax} to T_L -Ramp-up Rate	3°C/second max		
Time maintained above -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds	Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Peak Temperature (T_p)	max 260°C	Ramp-down Rate	6°C/ second max
Note: All temperatures refer to topside of the package, measured on the package body surface. SMD oscillators must be on the top side of the PCB during the reflow process			

How to order this product:

Use this worksheet to forward the following information to your factory representative:									
Model	Height	-	Supply Voltage Code	RF Output Code	Temperature Range	-	Reference Frequency	-	Output Frequency
FX-401	1	-	E	A	J	-		-	

Height: _____
1: 5,9 mm

Supply Voltage Code:
E: 3,3 V

RF Output Code:
A: HCMOS

Temperature Range:
H: -30...+85°C
J: -20...+70°C