

Typical Applications

Base Stations
 Test + Measurement

Features

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



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

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Reference Frequency

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Input frequency	2		100	MHz	± 2 ppm	
Parameter	Min	Typ	Max.	Units	Condition	
Signal		HCMOS				IFH
Reference Level	0.5		4	V _{pp}	HCMOS / similar sinewave	
Reference Input Impedance	2			kΩ		

Output Frequency

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

Supply voltage (Vs)

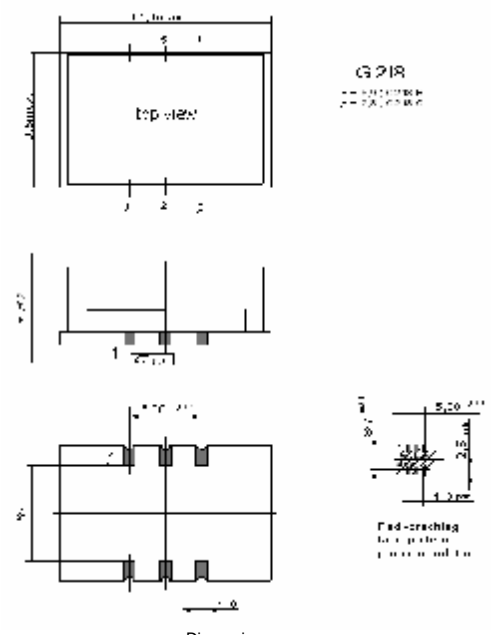
Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Supply voltage [Standard]	3.135	3.3	3.465	VDC		SV033
Current consumption			50	mA	steady state @ +25°C & 3.3VDC	

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	
Jitter		-157		dBc/Hz	1 MHz	
		0.77		ps RMS	@ 10Hz .. 150kHz	

Additional parameters

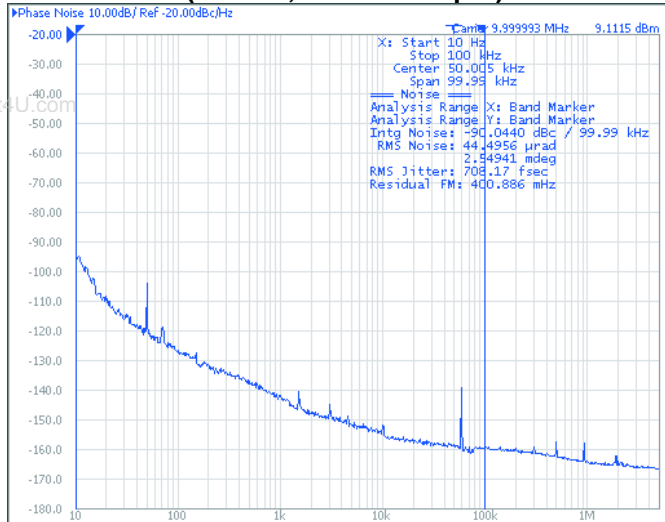
Parameter	Min	Typ	Max.	Units	Condition
Weight			9	g	
Processing & Packing	Handling & processing note				
Operating temperature range	-20		+70	°C	
Operable temperature range	-30		+85	°C	
Storage temperature range	-55		+125	°C	

Type G218B		
Input : Single ended (HCMOS or Sinewave)		
Output : Single ended HCMOS		
Code	Height "H"	Pin Length "L"
A1	5.9	NA
 <p>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
3	GND	Only for modul test or observance 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 \Rightarrow PLL in lock Low signal \Rightarrow PLL out of lock
6	Vs	Only for modul test or observance Power supply pin
Marking		
C3310A1-xxxx Frequency * VI AYYWW		

Absolute Maximum Ratings

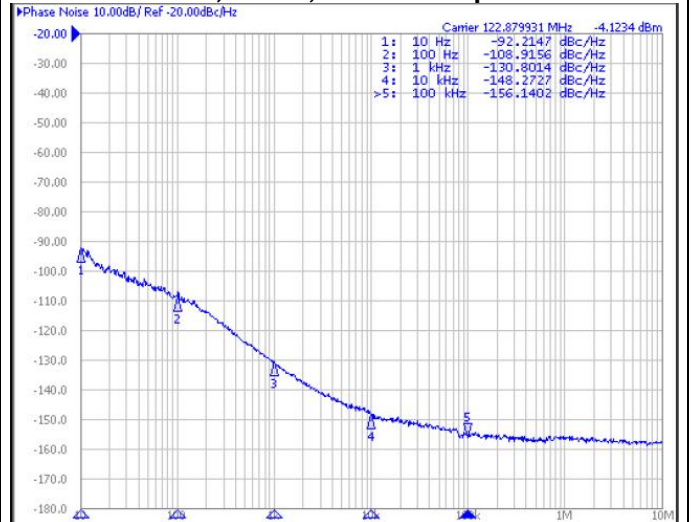
Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			6.0	V	
Maximum output load @ CMOS			40	pF	

Typical Phase Noise and Jitter (10 MHz; HCMOS output)



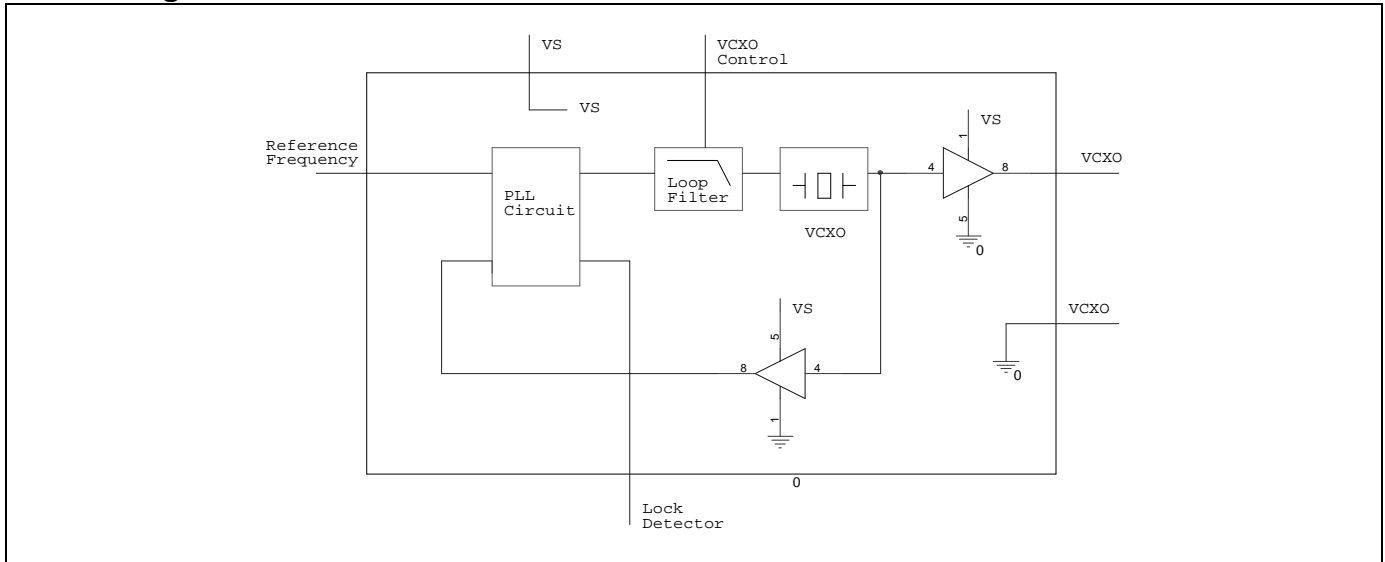
Frequency range [Hz]	Jitter [ps rms]
10Hz to 100kHz	0.708ps

122,88MHz; HCMOS output

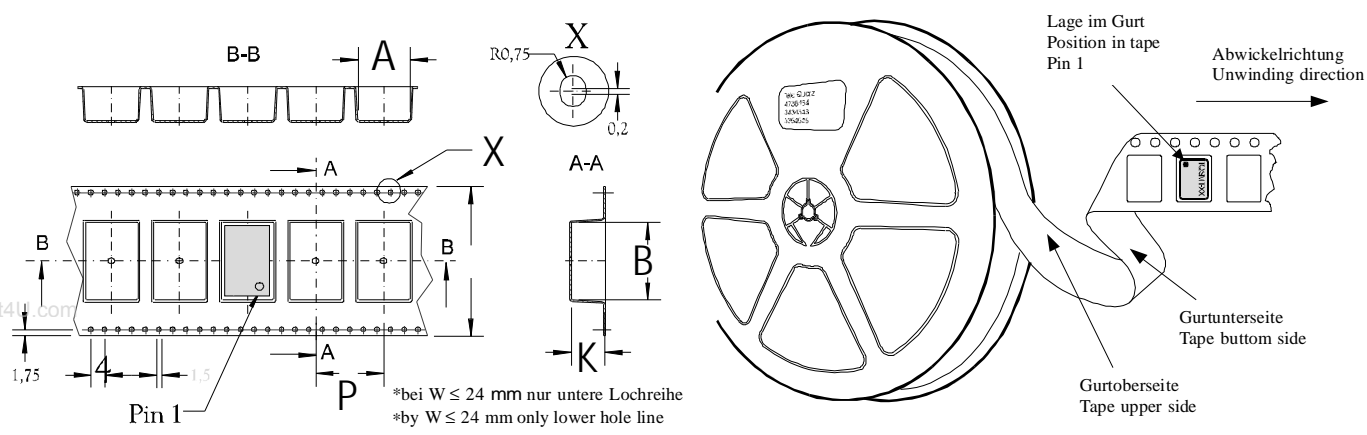


Frequency range [Hz]	Jitter [ps rms]
10Hz to 150kHz	0.775ps

Block Diagramm



Standard Shipping Method



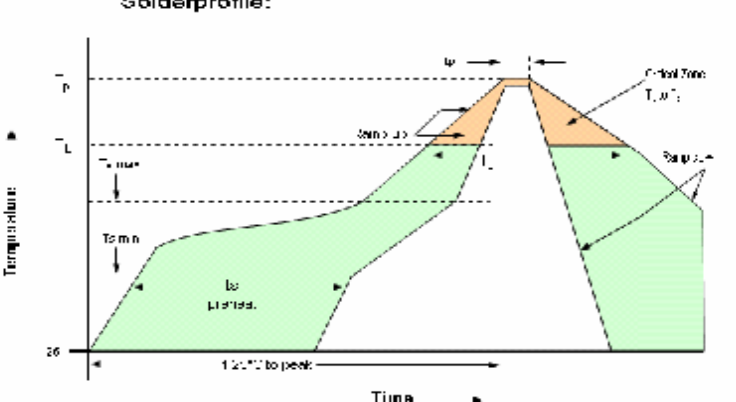
B-B, A, X, R0,75, 0,2, A-A, B, K, P, Pin 1, Lage im Gurt Position in tape Pin 1, Abwickelrichtung Unwinding direction, Gurtunterseite Tape bottom side, Gurtobenseite Tape upper side.

*bei W ≤ 24 mm nur untere Lochreihe
 *by W ≤ 24 mm only lower hole line

Production tolerance complying DIN IEC 286-3

Enclosure Type	Tape width W [mm]	Quantity per meter	Quantity per reel	Dimension P
G218B	tbd	tbd	850	tbd

Recommended Reflow Profile



Solderprofile:

Temperature vs. Time graph showing reflow profile with parameters: T_{smin} , T_{smax} , T_L , T_p , t_s , t_L , t_p , t_{cool} .

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 Max 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:

Model	Ref. Freq	Freq out	Supply Voltage Code	RF Output Code	Package Code
C3310			SV033	RFH	A1

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Supply:

SV033: 3.3V

Signal:

RFH: HCMOS

Enclosures:

A1: H: 5.9 L: NA

Dimension: mm