


VX-706

Features

- AT-Cut Crystal
- Surface Mount FR4 based package
- Single layer
- Reflow Process Compatible
- Low Phase Noise & Jitter
- Tight Stabilities
- Frequency Range 40 - 300MHz
- Standard Frequencies 61,44; 100; 122,88; 153,6; 200; 250; 300MHz

Applications

- Industrial
- Synthesizers
- Test & Measurement
- Military

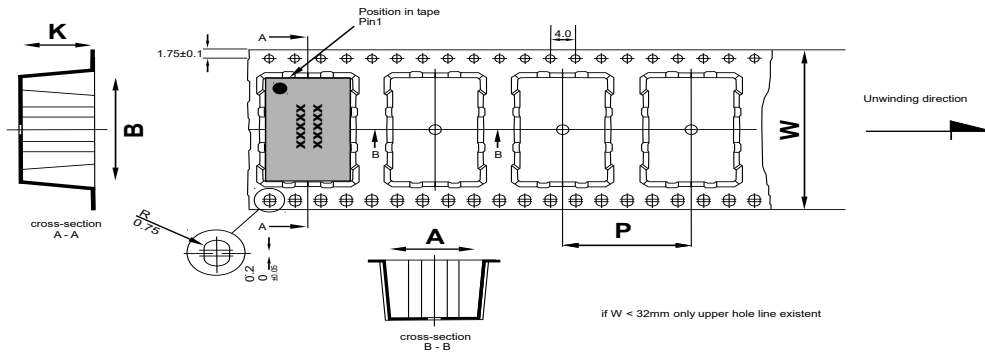
Performance Specifications

Frequency Stabilities ¹					
Parameter	Min	Typical	Max	Units	Condition
vs. operating temperature range (referenced to +25°C)	-30		+30	ppm	-40 to +85°C
Initial tolerance	-15		+15	ppm	@V _c =V _s /2 V _s ±5% Load ±10%
vs. supply voltage change	-3		+3	ppm	
vs. load change	-2		+2	ppm	
vs. aging / 1 Year	-2		+2	ppm	
vs. aging (15 years)	-8		+8	ppm	

Performance Specifications

Supply Voltage (Vs)						
Parameter	Min	Typical	Max	Units	Condition	
Supply voltage (standard)	3.135	3.3	3.465	VDC		Options
Current consumption			20	mA	@ HCMOS	
Current consumption			100	mA	@ PECL	
Supply voltage	4.75	5	5.25	VDC		
Current consumption			15	mA	@ HCMOS	
Current consumption			65	mA	@ PECL	
RF Output						
Signal	HCMOS					Options
Load		15		pF		
Rise and Fall time			5	ns	@ 15 pF 10 to 90%	
Duty cycle	45		55	%	@ Vs / 2	
Signal	PECL					
Load		50		Ω		
Rise and Fall time			1	ns	20 to 80%	
Duty cycle	45		55	%		
Frequency Tuning (EFC)						
Tuning Range	±60.0	±100	±200.0	ppm		
Linearity	10 %					
Tuning Slope	Positive					
Control Voltage Range	0 0.5	1.65 2.5	3.3 4.5	VDC VDC	with Vs = 3.3V with Vs = 5V	
Frequency Control Input Impedance	100			kΩ		
Additional Parameters						
Phase Noise		-72 -105 -132 -154 -164 -166		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz 1 MHz	@122.88 MHz LVCMOS 3.3V
Jitter		0.042		ps RMS	@ 12kHz .. 20MHz	
Phase Noise		-74 -104 -133 -154 -160 -162		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz 1 MHz	@ 122.88 MHz PECL 3.3V
Jitter		0.064		ps RMS	@ 12kHz .. 20MHz	
Weight			1.0 g			
Processing & Packing	Handling & Processing Note					
Absolute Maximum Ratings						
Supply voltage (Vs)			6.0	V		
Operable Temperature Range	-40		+85	°C		
Storage Temperature Range	-40		+95	°C		

Standard Shipping Method



Dimension in mm:
 A, B and K are dependent upon component dimensions
 production tolerance complying DIN IEC 286-3

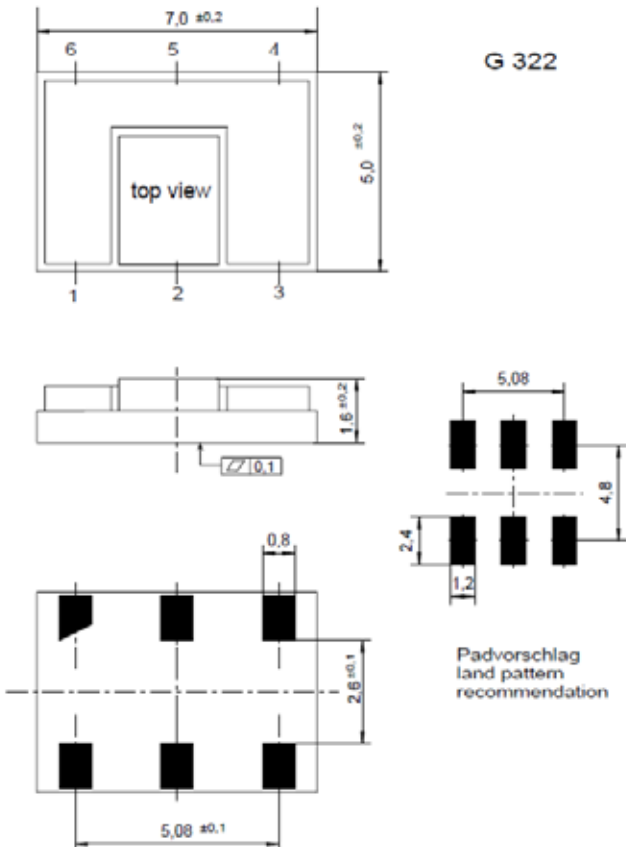
All dimensions in millimeters unless otherwise stated

Enclosure Type	Tape Width W (mm)	Quantity per meter	Quantity per reel	Dimension P
G322	12	150	750	8

Enclosure

Package Codes

Type	Height "H"	Pin Length "L"
G322	1.6	NA



G 322

Padvorschlag
 land pattern
 recommendation

Marking

VX-706-xxxx
Frequency
● AYYWW

Pin Connections

1	Control Voltage (Vc)
2	N.C. / Enable (Option)
3	Ground
4	RF Output
5	RF Output complementary (PECL) N.C. (CMOS)
6	Supply Voltage Input (Vs)

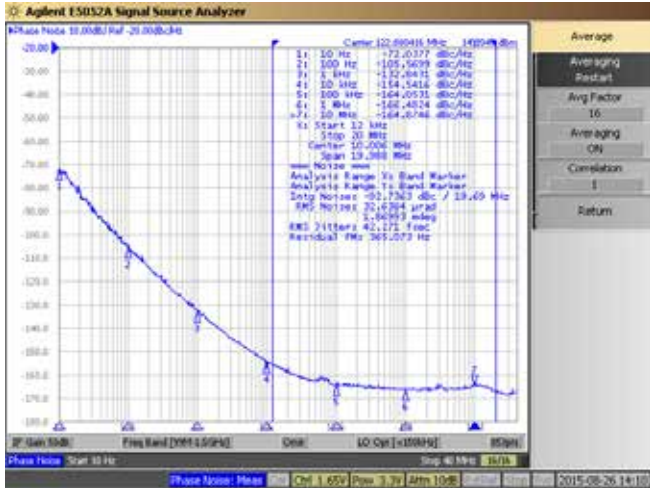
Enable true table (optional)

	HCMOS		LVPECL	
	Pin 4	Pin 5	Pin 4	Pin 5
High	Data	N.C.	No Data	No Data
Open	Data	N.C.	Data	Compl. Data
Low	High Tristate	N.C.	Data	Compl. Data

Typical Performance

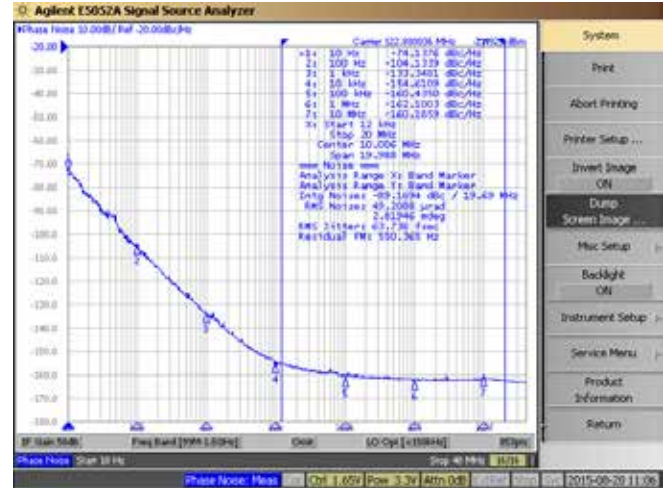
Phase Noise

VX-706 @ 122.88 MHz LVCMOS



Phase Noise

VX-706 @ 122.88 MHz LVPECL



Recommended Reflow Profile

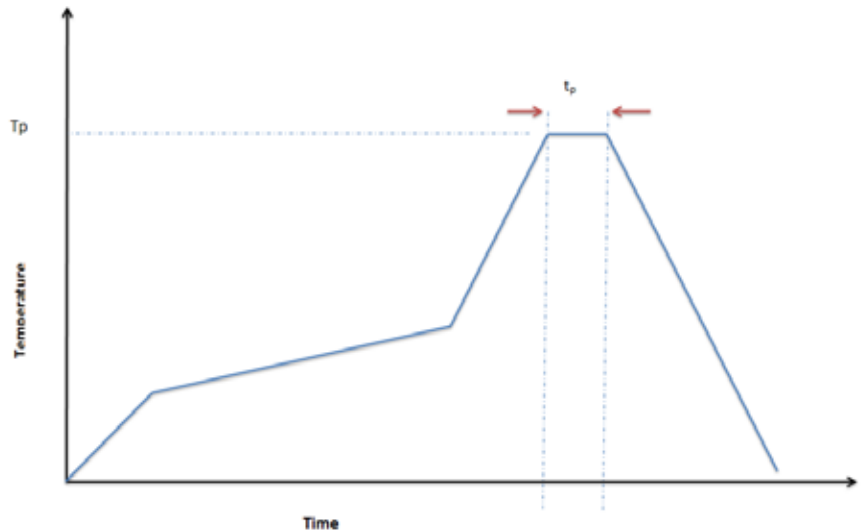
TP: max 250°C (@ solder joint, customer board level)

T_p: max: 10...30 sec

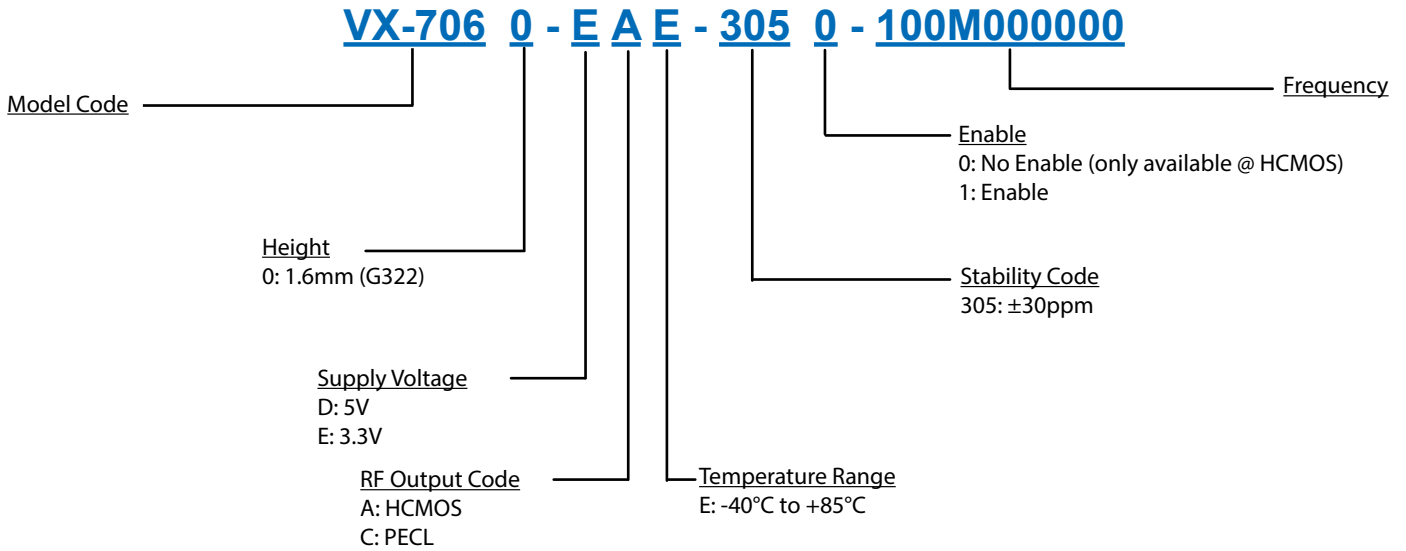
Additional Information:

This SMD oscillator has been designed for pick and place reflow soldering

SMD oscillators must be on the top side of the PCB during the reflow process.



Ordering Information



Notes:

1. Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
2. Unless other 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.



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