

Helping Customers Innovate, Improve & Grow



VX-701

Features

- AT-Cut Crystal
- Surface Mount FR4 based package
- Reflow Process Compatible
- Low Phase Noise
- Tight Stabilities
- Frequency Range 16 - 200MHz
- Standard Frequencies 16,384; 30,72; 32,768; 38,88; 52; 77,76;
100; 122,88; 153,6; 155,52; 175; 184,32MHz
- Previous Model Number: C5260

Applications

- Base Stations
- Test Equipment
- Synthesizers
- Switching

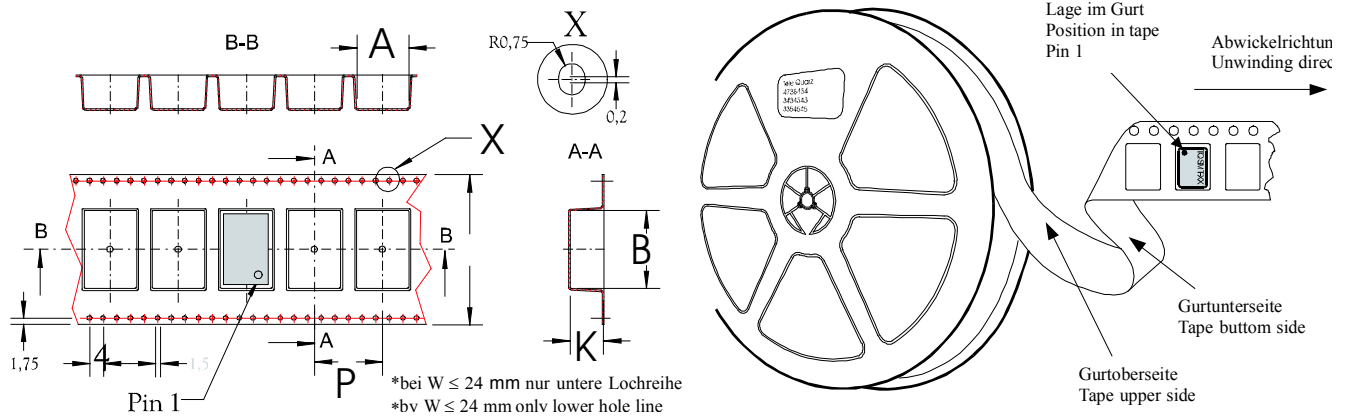
Performance Specifications

Frequency Stabilities ¹					
Parameter	Min	Typical	Max	Units	Condition
vs. operating temperature range (referenced to +25°C)	-15		+15	ppm	-20 to +70°C
Initial tolerance	-10		+10	ppm	@V _c =V _s /2 V _s ±5% Load ±10%
vs. supply voltage change	-3		+3	ppm	
vs. load change	-1		+1	ppm	
vs. aging / 1 Year	-3		+3	ppm	
vs. aging (following years)	-1		+1	ppm	
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	-3		+3	ppm	
vs. aging (following years)	-1		+1	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			40	mA	@ HCMOS	
Current consumption			90	mA	@ PECL, LVDS	
Supply voltage	4.75	5	5.25	VDC		
Current consumption			30	mA	@ HCMOS	
Current consumption			80	mA	@ PECL, LVDS	
RF Output						
Signal	HCMOS					Options
Load		15		pF		
Rise and Fall time			5	ns	@ 15 pF 10 to 90%	
Duty cycle	40		60	%	@ Vs / 2	
Signal	PECL					
Load		50		Ω		
Rise and Fall time			1	ns	20 to 80%	
Duty cycle	45		55	%		
Signal	LVDS					
Load		100		Ω		
Rise and Fall time			1	ns	10 to 90%	
Duty cycle	40		60	%		
Frequency Tuning (EFC)						
Tuning Range	±75.0	±140	±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	10			kΩ		
Additional Parameters						
Phase Noise		-85 -115 -135 -150 -153		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz	@52MHz HCMOS 3.3V
Jitter		0.2		ps RMS	@ 12kHz .. 20MHz	
Phase Noise		-80 -105 -135 -145 -145		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz	@ 155.52 MHz PECL 3.3V
Jitter		0.6		ps RMS	@ 12kHz .. 20MHz	
Weight			2.0 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

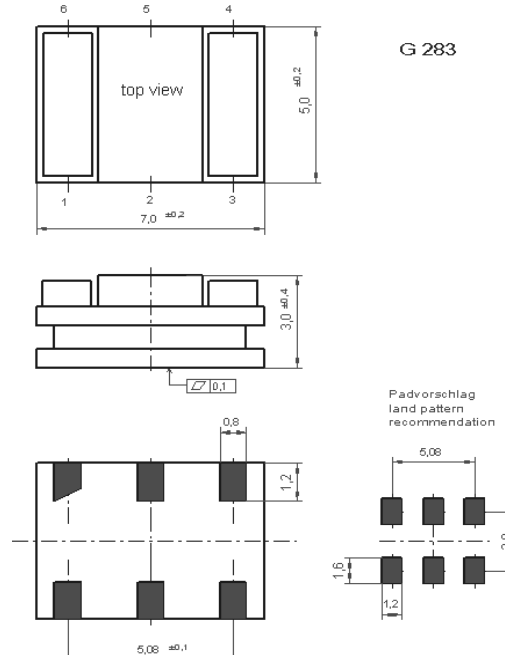
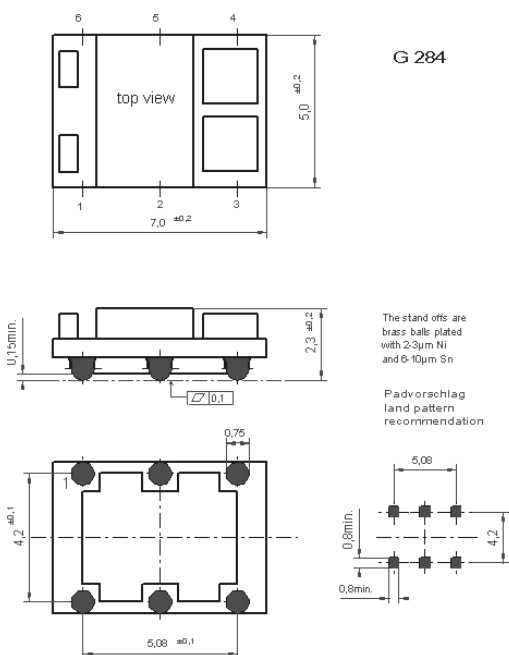


Enclosure Type	Tape Width W (mm)	Quantity per meter	Quantity per reel	Dimension P
G284/G283	12	150.	750.	8

Enclosure

Package Codes		
Type	Height "H"	Pin Length "L"
G284	2.3	NA

Package Codes	
Type	Height "H"
G283	3.0



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

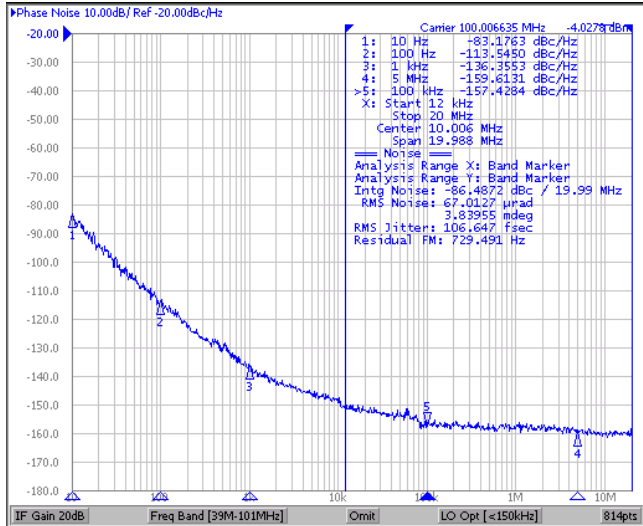
Enable true table (optional)				
	HCMOS		LVPECL / LVDS	
Pin 2	Pin 4	Pin 5	Pin 4	Pin 5
High	Data	N.C.	No Data	No Data
Open	Data	N.C.	Data	Compl. Data
Low	High Tristate	N.C.	Data	Compl. Data

Marking
VX-701-xxxx
Frequency
● AYYWW

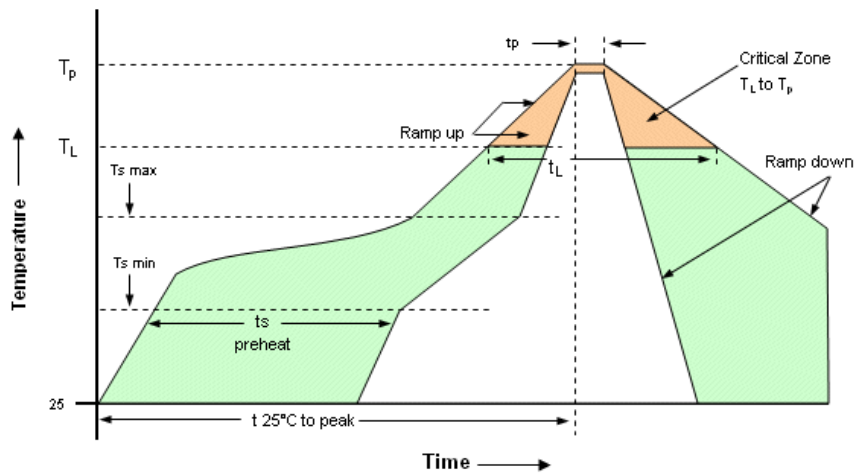
Standard Shipping Method

Phase Noise

VX-701 @ 100 MHz LVCMOS



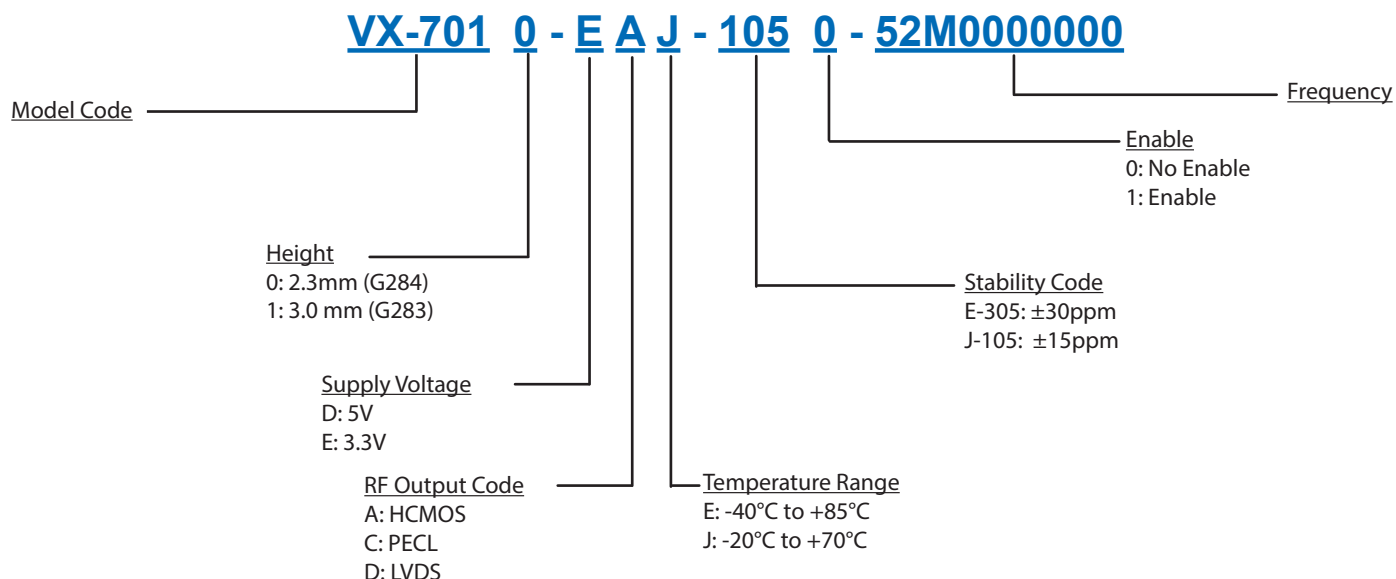
Recommended Reflow Profile



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.

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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