



### Features

- AT-Cut Crystal
- Surface Mount FR4 based package
- Low Phase Noise & Jitter
- Low G-Sensitivity
- Tight Stabilities
- Frequency Range 30 - 180MHz
- Standard Frequencies 50; 80; 100; 120; 122,88; 160MHz

### Applications

- Communication
- Industrial
- Test & Measurement
- Harsh Environment
- Military

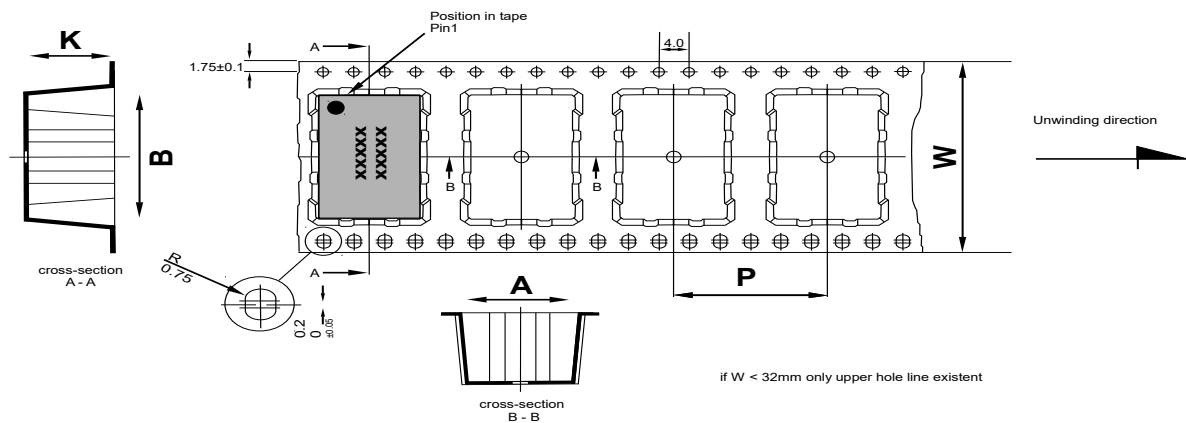
### Performance Specifications

Frequency Stabilities <sup>1</sup>					
Parameter	Min	Typical	Max	Units	Condition
vs. operating temperature range (referenced to +25°C)	-25		+25	ppm	-40 to +85°C
Initial tolerance	-10		+10	ppm	@V <sub>c</sub> =V <sub>s</sub> /2
vs. supply voltage change	-3		+3	ppm	V <sub>s</sub> ±5%
vs. load change	-1		+1	ppm	Load ±10%
vs. aging (15 years)	-7		+7	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		@ LVCMOS
Supply voltage	4.75	5	5.25	VDC		
Current consumption			15	mA		@ HCMOS
RF Output						
Signal	HCMOS					
Load		15		pF		
Rise and Fall time			5	ns	@ 15 pF 10 to 90%	
Duty cycle	45		55	%	@ Vs / 2	
Additional Parameters						
Phase Noise		-90		dBc/Hz	10 Hz	@120 MHz LVCMOS 3.3V
		-121		dBc/Hz	100 Hz	
		-147		dBc/Hz	1 kHz	
		-158		dBc/Hz	10 kHz	
		-165		dBc/Hz	100 kHz	
		-168		dBc/Hz	1 MHz	
		-168		dBc/Hz	10 MHz	
Jitter		32		fs RMS	@ 12kHz .. 20MHz	
G-Sensitivity		0.3		ppb/g	@0.06g <sup>2</sup> /Hz	
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		+105	°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
G218C	24	83.3	1700	12

# Enclosure

## Package Codes

Type	Height "H"	Pin Length "L"
G218C	2.8	NA

## Pin Connections

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

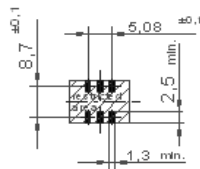
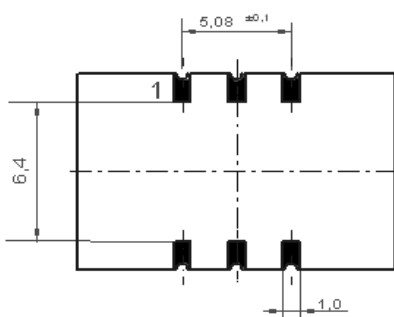
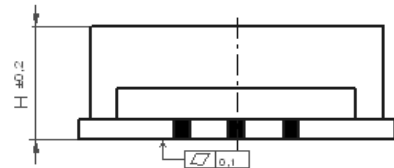
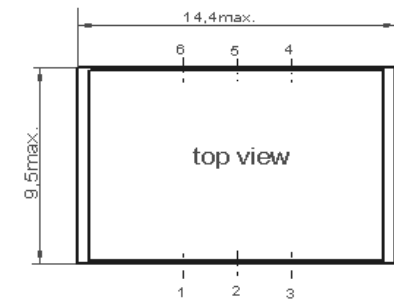
## Enable true table (optional)

HCMOS		
Pin 2	Pin 4	Pin 5
High	Data	N.C.
Open	Data	N.C.
Low	High Tristate	N.C.

## Marking

PX-504-xxxx
Frequency
● AYYWW

G 218

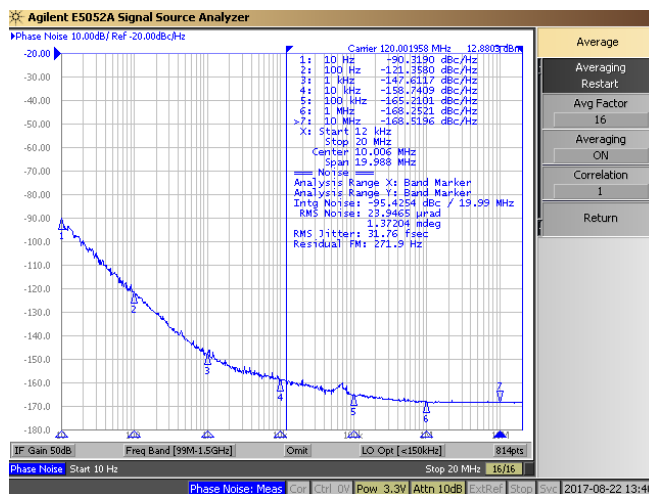


Padvorschlag  
land pattern  
recommendation

# Typical Performance

## Phase Noise

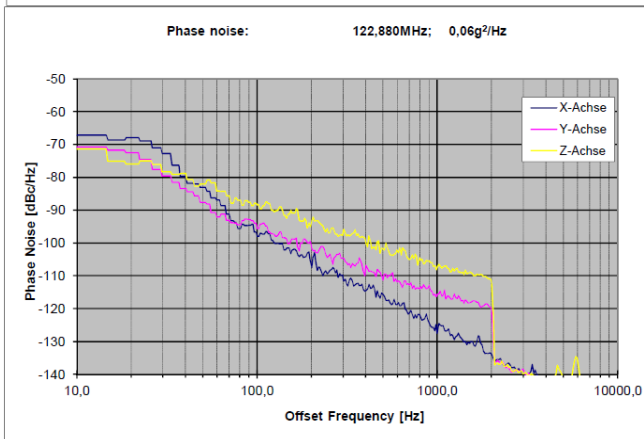
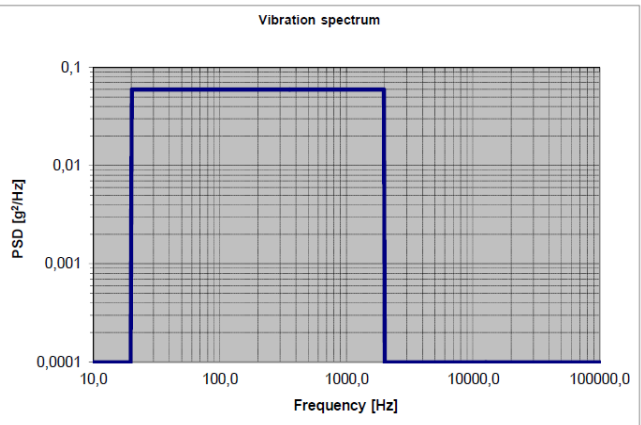
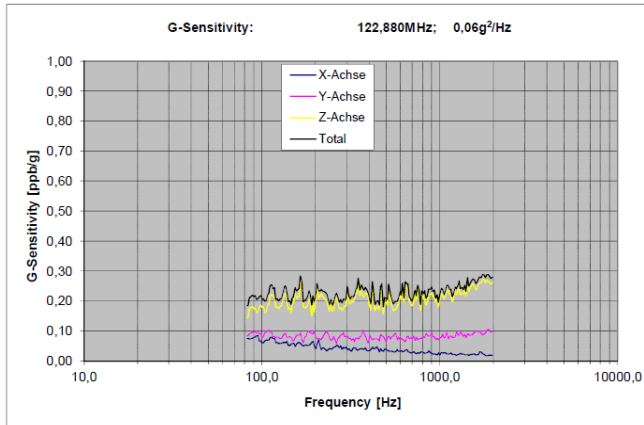
PX-504 @ 120 MHz LVCMOS



# Typical Performance

## G-Sensitivity

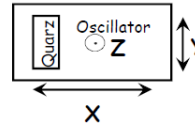
PX-504 @ 122.88 MHz LVCMOS



Calculation equation according to Vig-Tutorial

$$g\text{-sensitivity: } G = \frac{2 \cdot f_v}{A_{peak} \cdot f_0} \cdot 10^{\frac{L(f)}{20}}$$

$$\text{Peak g-level: } A_{peak} = \sqrt{PSD \cdot 2}$$



## Recommended Reflow Profile

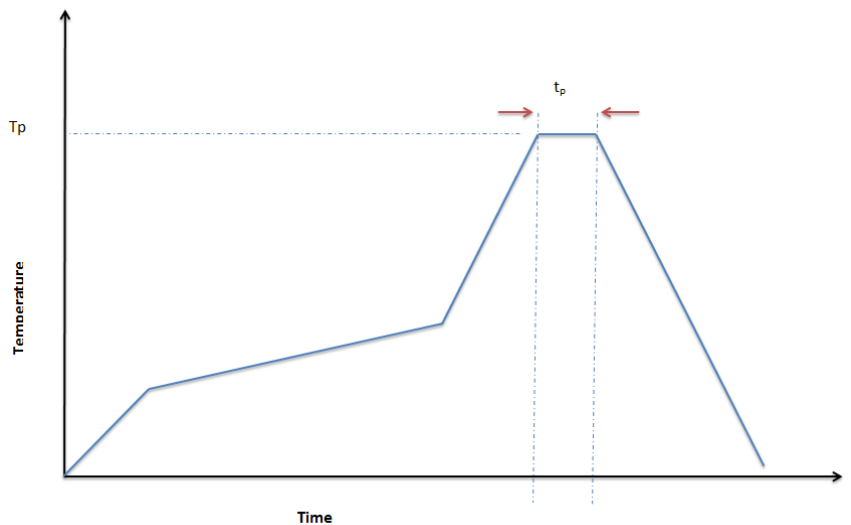
TP: max 250°C (@ solder joint, customer board level)

T<sub>p</sub>: max: 10...30 sec

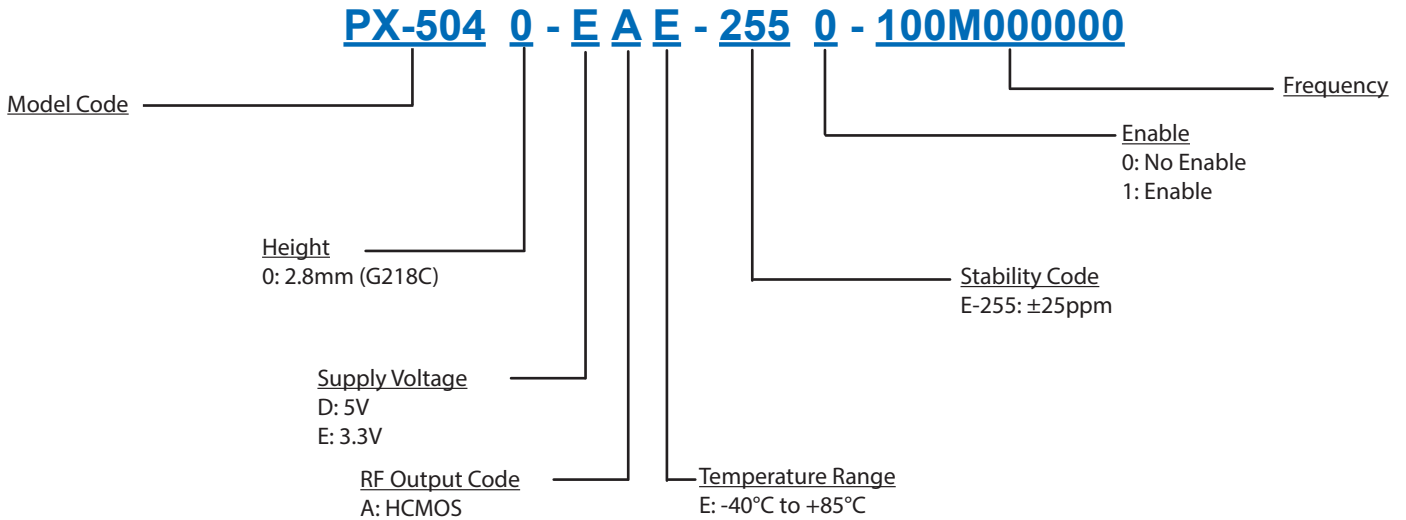
Additional Information:

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.

## Contact Information

### USA:

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