

## Model Name 7311S-DF

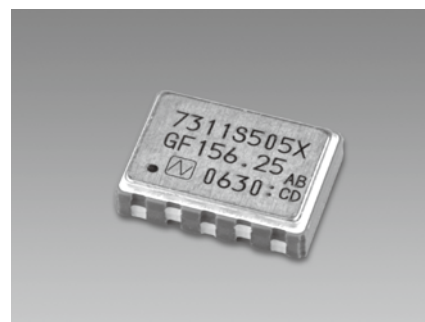
## Simple Packaged Crystal Oscillator (SPXO) 7300 Series

### ■ Main Application

For SONET-, SDH-, and GbEthernet-related equipment

### ■ Features

- Low power supply voltage (3.3 V)
- LVPECL output level.
- Supports a wide frequency range (62.5 to 313MHz).
- Low phase jitter : Max. 1ps
- Compact with dimensions of 7.0 x 5.0 x 1.7 mm.



Pb Free

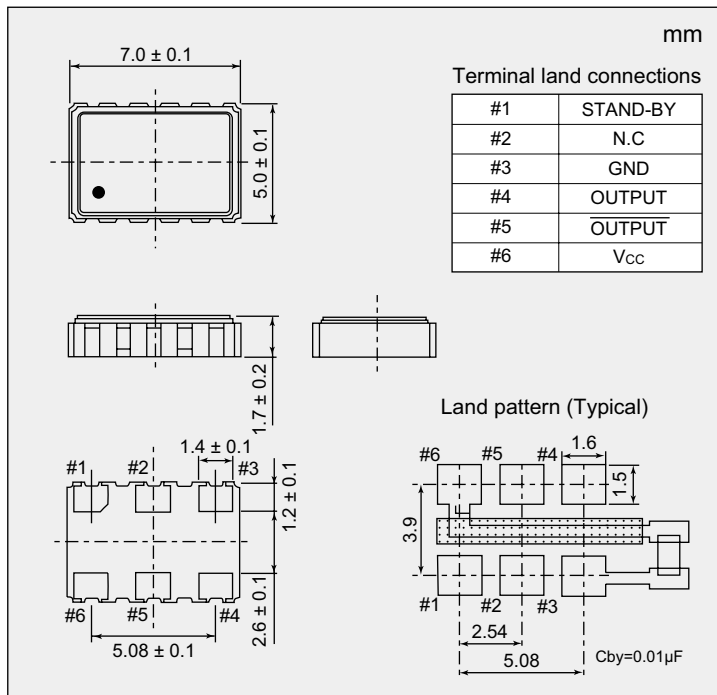
RoHS Compliant  
Directive 2011/65/EU

### ■ Specifications

Item	Model Classification	7311S				
		DF-255R	DF-505X	DF-104X	DF-505P	DF-104P
Nominal frequency range (MHz)		62.5 to 220				
Supply voltage [V <sub>cc</sub> ] (V)		+3.3 ± 10 %				
Load resistance		50 Ω (to V <sub>cc</sub> -2.0 V)				
Current consumption	During operation	Max. 90 mA (Typ. 60 mA)				
	During standby	Max. 30 μA				
Output level		LVPECL (Complementary)				
Operating temperature range		0 to +70°C	0 to +85°C			-40 to +85°C
Storage Temperature Range		-55 to +125°C				
Frequency tolerance		Max. ±25×10 <sup>-6</sup>	Max. ±50 ×10 <sup>-6</sup>	Max. ±100 ×10 <sup>-6</sup>	Max. ±50 ×10 <sup>-6</sup>	Max. ±100 ×10 <sup>-6</sup>
Symmetry		45 % to 55 % (at 50% Waveform)				
Phase jitter (RMS)		Max. 1ps (12 kHz to 20 MHz)				
Stand-by function (Three-state)		Available				
Number for specifying an order		NSA3344A	NSA3345A	NSA3346A	NSA3345G	NSA3346G

Item	Model Classification	7311S			
		DF-505X	DF-104X	DF-505P	DF-104P
Nominal frequency range (MHz)		220 to 313			
Supply voltage [V <sub>cc</sub> ] (V)		+3.3 ± 10 %			
Load resistance		50 Ω (to V <sub>cc</sub> -2.0 V)			
Current consumption	During operation	Max. 90 mA (Typ. 60 mA)			
	During standby	Max. 30 μA			
Output level		LVPECL (Complementary)			
Operating temperature range		0 to +85°C			-40 to +85°C
Storage Temperature Range		-55 to +125°C			
Frequency tolerance		Max. ±50 ×10 <sup>-6</sup>	Max. ±100 ×10 <sup>-6</sup>	Max. ±50 ×10 <sup>-6</sup>	Max. ±100 ×10 <sup>-6</sup>
Symmetry		45 % to 55 % (at 50% Waveform)			
Phase jitter (RMS)		Max. 1ps (12 kHz to 20 MHz)			
Stand-by function (Three-state)		Available			
Number for specifying an order		NSA3345E	NSA3346E	NSA3345E	NSA3346E

### ■ Dimensions



### ■ Standby Function Table (Three-state)

#1 Input	#4 and #5 output
Level H ( $V_{IH} \geq 0.7 V_{CC}$ ) or OPEN	Oscillation output ON
Level L ( $V_{IL} \leq 0.3 V_{CC}$ )	High impedance

### ■ How to Specify an Order

When ordering our products, specify them with an "Ordering Code" that consists of the following:

Model name – Frequency (up to 8 digits) M – Number for specifying an order

Example :When ordering +3.3 V, Max.  $\pm 100 \times 10^{-6}/0$  to 85°C, 156.25 MHz

Ordering Code: 7311S-DF-104X-156.25M-NSA3346A

If you have any queries concerning our standard frequencies and numbers for specifying orders, please contact our sales representatives or visit our homepage (<http://www.ndk.com/>).