



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Specification of Quartz Crystal Units

1	NDK Part Number	NX2016SA-32M-EXS00A-CS06465
2	Chipset Maker	Semtech
3	Application	LoRa
4	Chipset Name	SX127x
5	NDK Specification Number	EXS00A-CS06465
6	Type	NX2016SA
7	Electrical Characteristics	

	Parameters	SYM.	Electrical Spec.				Notes
			min	typ	max	Units	
1	Nominal Frequency (f _{nom})	f _{nom}	32.000			MHz	
2	Overtone order	-	Fundamental			-	
3	Frequency tolerance	-	-10	-	+10	ppm at +25°C	
4	Frequency versus temperature characteristics *1.	-	-10	-	+10	ppm at -20 to +70°C	
		-	-30	-	+30	ppm at -40 to +85°C	
5	Equivalent Series Resistance	R _r	-	-	50	Ω IECπ -Network Series	
6	Load capacitance	CL	-	10	-	pF IECπ -PI-Network	
7	Level of drive	-	-	10	100	μW	
8	Shunt Capacitance	C0	-30%	0.6	+30%	pF	
9	Motional Capacitance	C1	-30%	1.89	+30%	fF	
10	Motional Inductance	L1	-30%	13.14	+30%	mH	
11	Pulling sensitivity	S	-30%	8.41	+30%	ppm/pF *2	
12	Aging	-	-3	-	+3	ppm	1st year (at +25°C)
		-	-5	-	+5		5 years (at +25°C)
		-	-10	-	+10		10 years (at +25°C)
		-	-15	-	+15		20 years (at +25°C)
13	Insulation resistance	-	500	-	-	Ω *3	
14	Operating temperature range	-	-40	-	+85	°C	
15	Storage temperature range	-	-40	-	+85	°C	
16	Air-tightness	-	-	-	1.1×10 ⁻⁹	Pa.m ³ /s Helium leak detector	
17	Recommended oscillation margin	-	600	-	-	Ω *4	
18	G-sensitivity	-	-	-	2	ppb/G *5	

*1. The reference temperature shall be +25°C

*2. CL=10pF. This value is calculated by following formula.

$$S = (C1 \times 1,000) / (2(C0 + CL)^2) \text{ [ppm/pF]} \quad \text{Unit } C0: [\text{pF}], C1: [\text{fF}], CL: [\text{pF}]$$

*3. When terminal to terminal and terminal to cover were applied at DC100V ±15V.

*4. When the circuit does not have enough value as above, please contact us.

*5. When using NDK standard osc. circuit.

Dimension

