

Specification of Temperature Compensated Crystal Oscillators

- 1. NDK Part Number** NT3225SA-19.2M-DJA3002B
2. NDK Specification Number DJA3002B
3. Type NT3225SA
4. Electrical Specification

	Parameters	SYM.	Electrical Spec.				Notes	
			Min.	Typ.	Max.	Units		
1	Nominal frequency	f _{nom}	19.200			MHz	-	
2	Supply voltage	V _{cc}	-	+2.8	-	V	-	
3	Current consumption	-	-	-	1.5	mA	-	
4	Output voltage	-	0.8	-	-	V _{p-p}	Clipped sine wave (DC-Coupling)	
5	Operating temp. rage	-	-30	-	+75	°C	-	
6	Storage temp. rage	-	-40	-	+85	°C	-	
7	Load impedance (resistance part)	-	9	10	11	kΩ	-	
8	Load impedance (parallel capacitance)	-	9	10	11	pF	-	
9	DC-cut capacitor	-	-	-	-	-	DC-cut capacitor of output is not put in TCXO. Please add DC-cut capacitor(1,000pF)in output line.	
10	Frequency/ temperature characteristics	-	-2.5	-	+2.5	ppm	-30to+75°C(Based on frequency at +25+/- 2°C)at control voltage (V _{cont})=+1.2VDC	
11	Frequency/ Voltage coefficient	-	-0.3	-	+0.3	ppm	+2.8V+/-0.1V	
12	Frequency/ Load coefficient	-	-0.2	-	+0.2	ppm	(10kΩ//10pF)+/-10%	
13	Frequency tolerance	-	-1.5	-	+1.5	ppm	+/-25°C+/-2°C, Before reflow soldering, based on nominal frequency at controlvoltage (V _{cont})=+1.2VDC.	
14	Long-term frequency stability	-	-1.0	-	+1.0	ppm	year(at +25°C)	
15	Control voltage	V _{cont}	+0.2	+1.2	+2.2	V	-	
16	Frequency control range	-	-15.0	-	-9.0	ppm	V _{cont} = +0.2V	Based on frequency at V _{cont} +1.2VDC
		-	+9.0	-	+15.0	ppm	V _{cont} = +2.2V	
17	Frequency change polarity	-	-	-	-	-	Positive	
18	Stabilization time	-	-	-	4.0	ms	+/-0.1 ppm of final frequency final frequency is the frequency after 10 s from the point when supply voltage is reached at+2.8 V. Measurement is done while the control voltage is kept at its typical value at	
19	Symmetry	-	40	-	60	%	Based on GND after DC removal.	
20	Phase noise	-	-	-	-130	dBc/Hz	@1 kHz offset	

5. Dimension

