1. Device Name VC-TCXO
2. Model Name DSA321SDA
3. Nominal Frequency 16.320 MHz
4. Mass 0.03g max.
5. Absolute Maximum Ratings

	Item	Symbol	Rating	unit
1	Supply Voltage	V_{CC}	-0.3 ~ +6.0	V
2	Storage Temperature Range	$T_{_STG}$	-55 ~ +105	°C

6. Recommended Operating Conditions

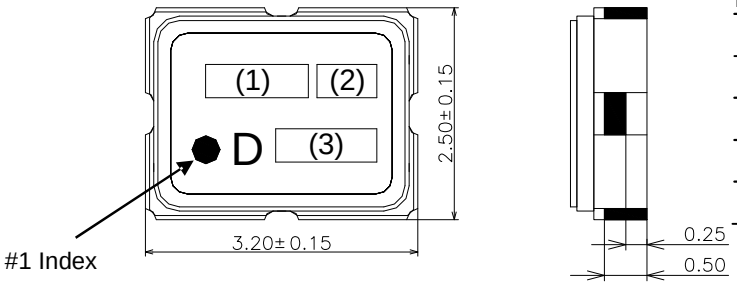
	Item	Symbol	min.	typ.	max.	unit
1	Supply Voltage	V_{CC}	+2.97	+3.3	+3.63	V
2	Load Impedance (resistance part)	L_{oad}_R	9	10	11	kΩ
	(parallel capacitance)	L_{oad}_C	9	10	11	pF
3	Control Voltage Range	V_{CONT}	+0	+1.65	+3.3	V
4	Operable Temperature Range	$T_{_OPR}$	-40	-	+85	°C

7. Electrical Characteristics
(T_A=-30 ~ +85 °C, L_{oad}_R//C=10kΩ//10pF, V_{CC}=+3.3V, V_{CONT}=+1.65V unless otherwise noted)

	Item	Conditions	Limits			unit	Notes
			min.	typ	max.		
1	Current Consumption		-	-	1.5	mA	
2	Output Level		0.8	-	-	V_{P-P}	1
3	Symmetry	GND level(DC cut)	40/60	-	60/40	%	
4	Harmonics		-	-	-5	dBc	
5	Frequency Stability						
	1.Tolerance	At shiiping Ref. to Nominal Frequency	-	-	±0.5	ppm	
		After 2 times reflow Ref. to Nominal Frequency	-	-	±1.5	ppm	2
	2.vs Temperature	T_A=-30 ~ +85°C Ref. to Frequency(T_A=+25°C)	-	-	±0.5	ppm	
	4.vs Supply Voltage	V_{CC}=+3.3V±10%	-	-	±0.2	ppm	
	5.vs Load Variation	L_{oad}_R//C=(10kΩ//10pF)±10%	-	-	±0.2	ppm	
	6.vs Aging	T_A=Room ambient	-	-	±1.0	ppm/year	
		T_A=Room ambient	-	-	±3.0	ppm/10years	
6	Start Up	@90% of final Vout level	-	-	2.0	ms	
7	Frequency Control						
	1.Control Range	V_{CONT}=+0V ~ +3.3V(Ref:+1.65V)	±7	-	-	ppm	3
	2.Input Resistance		500	-	-	kΩ	
8	SSB Phase Noise	Relative to F0 level offset 100Hz	-	-	-110	dBc/Hz	
		Relative to F0 level offset 1kHz	-	-	-130	dBc/Hz	
		Relative to F0 level offset 10kHz	-	-	-140	dBc/Hz	
		Relative to F0 level offset 100kHz	-	-	-145	dBc/Hz	

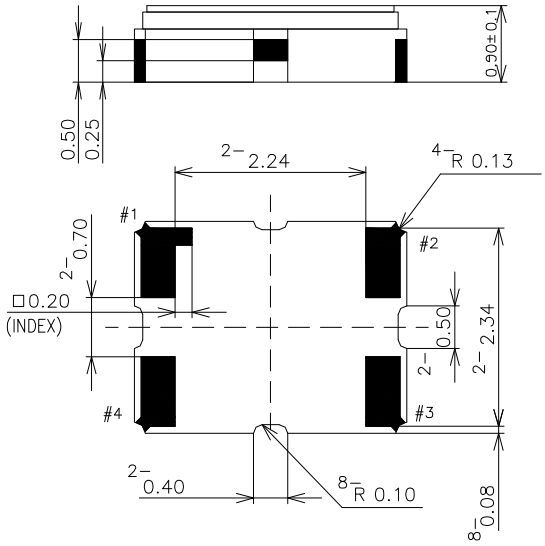
Notes
1. Clipped sine wave (DC-coupled)
2. Please leave after reflow in 2-hour or more at room ambient.
3. Positive slope (Frequency becomes high in proportion to frequency control voltage.)

8. Outline, Pin Connections



Pin Connections

Pin No.	Connection
#1	Vcont
#2	GND
#3	OUTPUT
#4	Vcc



Marking

(1) Frequency 16.32(MHz, 4digits)

(2) Model code S

(3) EIA Date code Year(1digit)+Week(2digits)

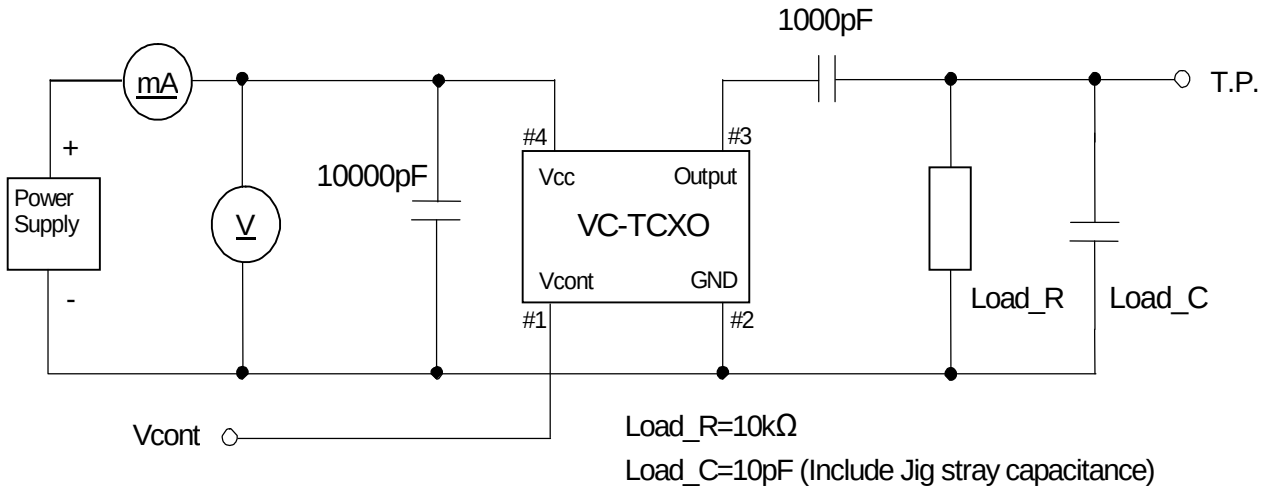
e.g. 2009/1/1 → 901

unit : mm

Dimensional Tolerance: ±0.15

(Unless otherwise noted)

9. Measurement Circuit



Load_R=10kΩ

Load_C=10pF (Include Jig stray capacitance)