

1. Device Name VC-TCXO
2. Model Name DSA321SDN
3. Nominal Frequency 12.800 MHz
4. Mass 0.03g max.
5. Absolute Maximum Ratings

	Item	Symbol	Rating	unit
1	Supply Voltage	V <sub>CC</sub>	-0.3~+4.6	V
2	Storage Temperature Range	T <sub>STG</sub>	-40~+85	°C

6. Recommended Operating Conditions

	Item	Symbol	min.	typ.	max.	unit
1	Supply Voltage	V <sub>CC</sub>	+2.66	+2.8	+2.94	V
2	Load Impedance (resistance part) (parallel capacitance)	LOAD_R	9	10	11	kΩ
		LOAD_C	9	10	11	pF
3	Control Voltage Range	V <sub>CONT</sub>	+0.5	+1.5	+2.5	V
4	Operating Temperature Range	T <sub>OPR</sub>	-30	-	+85	°C

7. Electrical Characteristics

(T<sub>A</sub>=-30~+85°C, LOAD\_R//C=10kΩ//10pF, V<sub>CC</sub>=+2.8V, V<sub>CONT</sub>=+1.5V, unless otherwise noted)

	Item	Conditions	Limits			unit	Notes
			min.	typ	max.		
1	Current Consumption		-	-	+1.5	mA	
2	Output Level		0.8	-	-	V <sub>P-P</sub>	1
3	Symmetry	GND level (DC cut)	40/60	-	60/40	%	
4	Harmonics		-	-	-5	dBc	
5	Frequency Stability						
	1.Tolerance	After 2 times reflow Ref. to nominal frequency	-	-	±1.5	ppm	2,3
	2.vs Temperature	T <sub>A</sub> =-30~+85°C, V <sub>CONT</sub> =+1.5V Ref. to frequency (T <sub>A</sub> =+25°C)	-	-	±0.5	ppm	
	3.vs Supply Voltage	V <sub>CC</sub> =+2.8V±5%	-	-	±0.2	ppm	
	4.vs Load Variation	LOAD_R//C=(10kΩ//10pF)±10%	-	-	±0.2	ppm	
	5.vs Aging	T <sub>A</sub> =Room ambient	-	-	±1.0	ppm/year	
6	Start Up Time	@90% of final V <sub>out</sub> level	-	-	2.0	ms	
7	Frequency Control						
	1.Control Range	V <sub>CONT</sub> =+1.5V±1.0V	±15	-	-	ppm	2,4
	2.Input Resistance		500	-	-	kΩ	
8	SSB Phase Noise	Relative to f <sub>0</sub> level offset 100Hz	-	-	-115	dBc/Hz	
		Relative to f <sub>0</sub> level offset 1kHz	-	-	-130	dBc/Hz	
		Relative to f <sub>0</sub> level offset 10kHz	-	-	-150	dBc/Hz	
		Relative to f <sub>0</sub> level offset 100kHz	-	-	-155	dBc/Hz	

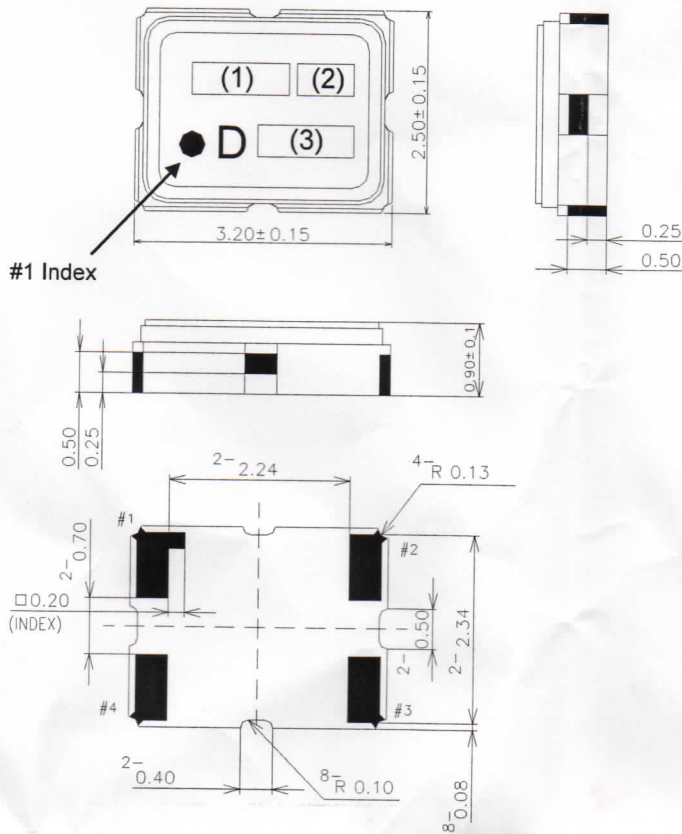
Notes

1. Clipped sine wave (DC-coupled)
2. T<sub>A</sub>=+25°C
3. Please leave after reflow in 2h or more at room ambient.
4. Positive slope (Frequency becomes high in proportion to frequency control voltage.)

TITLE DSA321SDN TYPE SPECIFICATION		Remark		
Date 2020/08/19	Spec. No.	Rev.	Page 1/2	

## 8. Outline, Pin Connections

### Outline



### Pin Connections

Pin No.	Connection
#1	V <sub>CONT</sub>
#2	GND
#3	Output
#4	V <sub>CC</sub>

### Marking

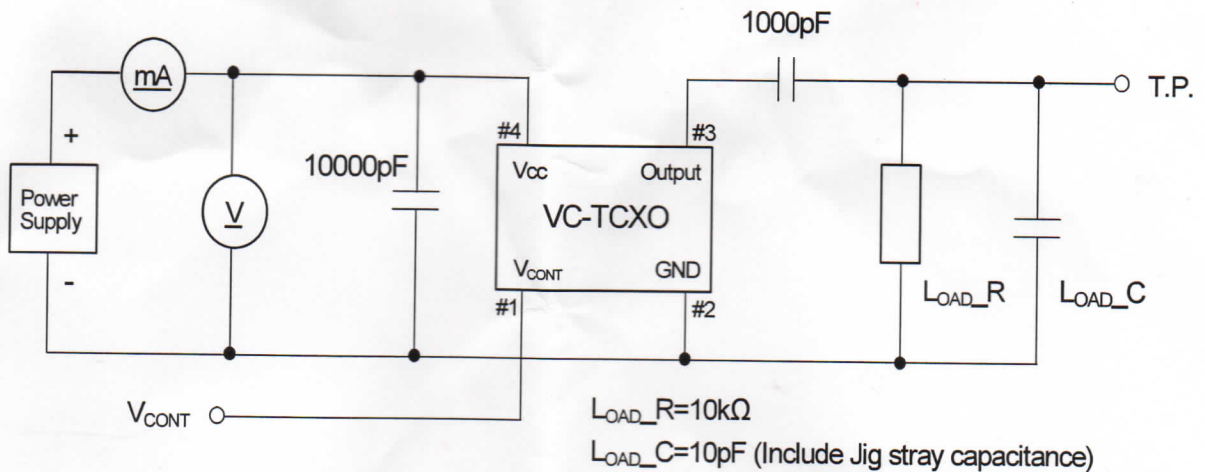
(1) Frequency	12.80 (MHz, 4digits)
(2) Model code	AN
(3) Date code	Year (1digit) + Week (2digits) e.g. 2020/01/01 → 001

unit: mm

Dimensional Tolerance:  $\pm 0.15$

(Unless otherwise noted)

## 9. Measurement Circuit



TITLE  
DSA321SDN TYPE SPECIFICATION

Remark

Date  
2020/08/19

Spec. No.

Rev.

Page

2/2