

1. Device Name TCXO
2. Model Name DSB221SDM
3. Nominal Frequency 16.367 MHz
4. Mass 0.02g max.
5. Absolute Maximum Ratings

	Item	Symbol	Rating	unit
1	Supply Voltage	V _{CC}	-0.3~+4.6	V
2	Storage Temperature Range	T _{STG}	-40~+105	°C

6. Recommended Operating Conditions

	Item	Symbol	min.	typ.	max.	unit
1	Supply Voltage	V _{CC}	+2.7	+3.0	+3.6	V
2	Output Load (resistance part) (parallel capacitance)	LOAD_R	1.35	1.5	1.65	kΩ
		LOAD_C	9	10	11	pF
3	Operating Temperature Range	T _{OPR}	-40	-	+85	°C

7. Electrical Characteristics

(T_A=-40~+85°C, LOAD_R/C=1.5kΩ//10pF, V_{CC}=+3.0V, unless otherwise noted)

	Item	Conditions	Limits			unit	Notes
			min.	typ.	max.		
1	Current Consumption		-	-	+2.0	mA	
2	Output Level		0.9	-	1.5	V _{P-P}	1
3	Symmetry	GND level (DC cut)	40/60	-	60/40	%	
4	Hamonics		-	-	-5	dBc	
5	Frequency Stability						
	1.Tolerance	After 2 times reflow Ref. to nominal frequency	-	-	±2.0	ppm	2,3
	2.vs Temperature	T _A = -40~+85°C Ref. to frequency (T _A =+25°C)	-	-	±2.0	ppm	
	3.vs Slope	T _A = -40~+85°C			±0.5	ppm/°C	
	4. vs Hysteresis		-	-	±0.6	ppm	
	5.vs Supply Voltage	V _{CC} =+3.0V±5%	-	-	±0.1	ppm	
	6.vs Load Variation	LOAD_R/C=(1.5kΩ//10pF)±10%	-	-	±0.2	ppm	
	7.vs Aging	T _A =Room ambient	-	-	±1.0	ppm/year	
			-	-	±4.0	ppm/10years	
6	Start Up Time	@90% of final V _{OUT} level	-	-	2.0	ms	
7	SSB Phase Noise	Relative to f0 level offset 10Hz	-	-	-82	dBc/Hz	
		Relative to f0 level offset 100Hz	-	-	-105	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	
8	Root Allan Variance	Tau=1s	-	-	1	ppb	
9	G Sensitivity	Gamma Vector of all 3axes from 30~1500Hz	-	-	2.0	ppb/G	
10	Micro-Jump		-	-	5.0	ppb	4
11	RMS Noise		-	-	0.5	ppb	4

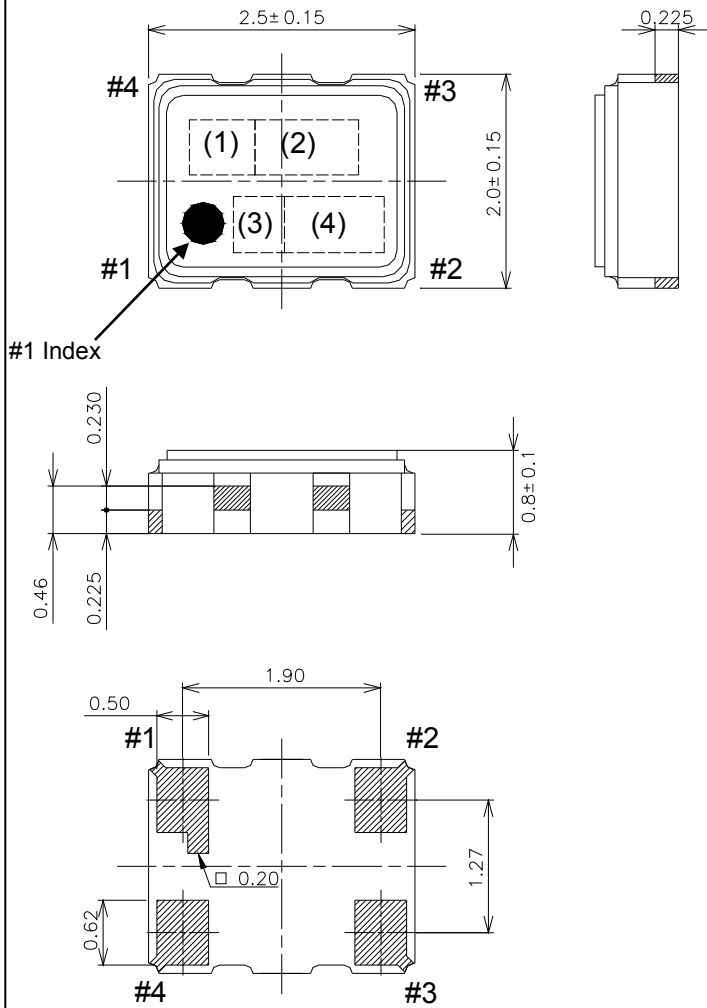
Notes

1. Clipped sine wave (DC-coupled)
2. T_A=+25°C
3. Please leave after reflow in 2h or more at room ambient.
4. When measured as the frequency difference between any two adjacent 100ms measurement periods.
The frequency measurements conducted over the 100ms measurement periods should be contiguous
Over a sample period of > 500s.

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8. Outline, Pin Connections

Outline



Pin Connections

Pin No.	Connection
#1	GND
#2	GND
#3	Output
#4	V _{CC}

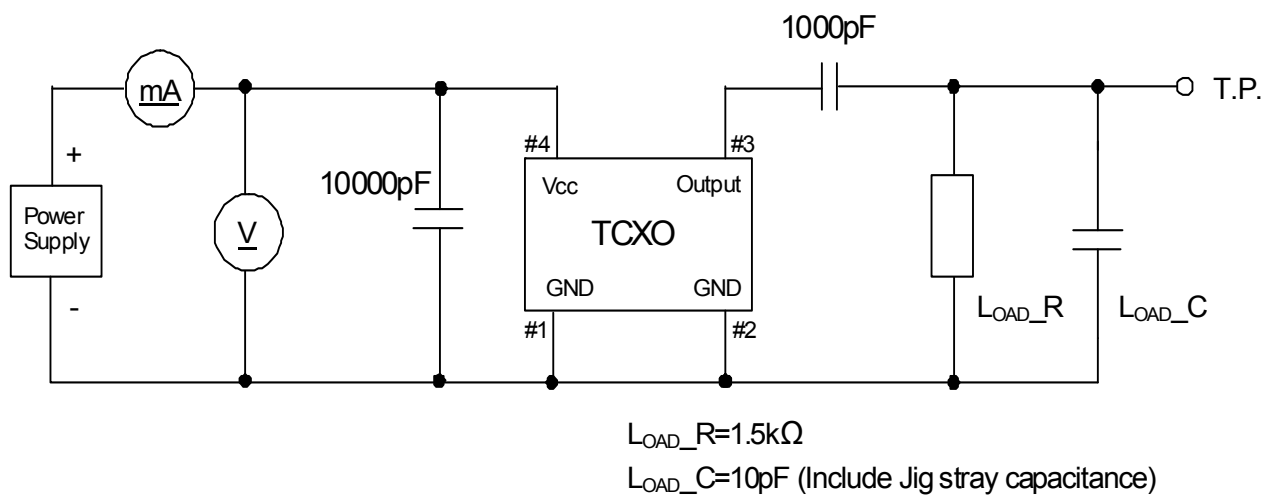
Marking

(1) Model code	BD
(2) Frequency	16.3 (MHz, 3digits)
(3) Logo	D
(4) Date code	Year (1digit) +Week (2digits) e.g.2012/1/1 → 201

unit: mm

Dimensional Tolerance: ± 0.15
(Unless otherwise noted)

9. Measurement Circuit



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