

1. Device Name TCXO
2. Model Name DSA211SDN
3. Nominal Frequency 26.000 MHz
4. Mass 0.015g 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~+85	°C

6. Recommended Operating Conditions

	Item	Symbol	min.	typ.	max.	unit
1	Supply Voltage	V _{CC}	+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 _{CONT}	+0.4	+1.4	+2.4	V
4	Operating Temperature Range	T _{OPR}	-40	-	+85	°C

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7. Electrical Characteristics

($T_A = -40 \sim +85^\circ\text{C}$, $L_{\text{LOAD_R}}/C = 10\text{k}\Omega/10\text{pF}$, $V_{\text{CC}} = +2.8\text{V}$, $V_{\text{CONT}} = +1.4\text{V}$, unless otherwise noted)

	Item	Conditions	Limits			unit	Notes	
			min.	typ	max.			
1	Current Consumption		-	-	+1.5	mA		
2	Output Level		0.8	-	-	$V_{\text{P-P}}$	1	
3	Symmetry	GND level (DC cut)	40/60	-	60/40	%		
4	Harmonics		-	-	-8	dBc		
5	Frequency Stability	1.Tolerance	After 2 times reflow Ref. to nominal frequency	-	-	± 2.0	ppm	2,3
		2.vs Temperature	$T_A = -30 \sim +85^\circ\text{C}$ $V_{\text{CONT}} = +1.4\text{V}$ Ref. to frequency ($T_A = +25^\circ\text{C}$)	-	-	± 0.5	ppm	
			$T_A = -40 \sim -30^\circ\text{C}$ $V_{\text{CONT}} = +1.4\text{V}$ Ref. to frequency ($T_A = +25^\circ\text{C}$)	-	-	± 3.0	ppm	
		3.vs Slope	$T_A = -20 \sim +65^\circ\text{C}$	-	-	± 0.05	ppm/ $^\circ\text{C}$	
			$T_A = -30 \sim +85^\circ\text{C}$	-	-	± 0.1	ppm/ $^\circ\text{C}$	
			$T_A = -40 \sim -30^\circ\text{C}$	-	-	± 0.35	ppm/ $^\circ\text{C}$	
		4.vs Hysteresis		-	-	± 0.6	ppm	
		5.vs Supply Voltage	$V_{\text{CC}} = +2.8\text{V} \pm 0.14\text{V}$	-	-	± 0.1	ppm	
		6.vs Load Variation	$L_{\text{LOAD_R}}/C = (10\text{k}\Omega/10\text{pF}) \pm 10\%$	-	-	± 0.1	ppm	
		7.vs Aging	$T_A = \text{Room ambient}$	-	-	± 1.0	ppm/year	
$T_A = \text{Room ambient}$	-		-	± 1.5	ppm/2years			
$T_A = \text{Room ambient}$	-		-	± 2.5	ppm/5years			
$T_A = \text{Room ambient}$	-		-	± 5.0	ppm/10years			
6	Start Up Time	@90% of final V_{out} level	-	-	2.0	ms		
		Within $\pm 0.5\text{ppm}$ of final frequency	-	-	2.0	ms		
7	G Sensitivity	within 30 to 1500Hz	-	-	2.0	ppb/G		
8	Frequency Control	1.Control Range	$V_{\text{CONT}} = +1.4\text{V} \pm 1.0\text{V}$	± 9	-	± 15	ppm	4
		2.Input Resistance		100	-	-	k Ω	
9	SSB Phase Noise	Relative to f_0 level offset 1Hz	-	-	-50	dBc/Hz		
		Relative to f_0 level offset 10Hz	-	-	-80	dBc/Hz		
		Relative to f_0 level offset 100Hz	-	-	-105	dBc/Hz		
		Relative to f_0 level offset 1kHz	-	-	-130	dBc/Hz		
		Relative to f_0 level offset 10kHz	-	-	-145	dBc/Hz		
		Relative to f_0 level offset 100kHz	-	-	-150	dBc/Hz		
10	Root Allan Variance	$\text{Tau} = 1\text{sec}$	-	-	0.3	ppb		

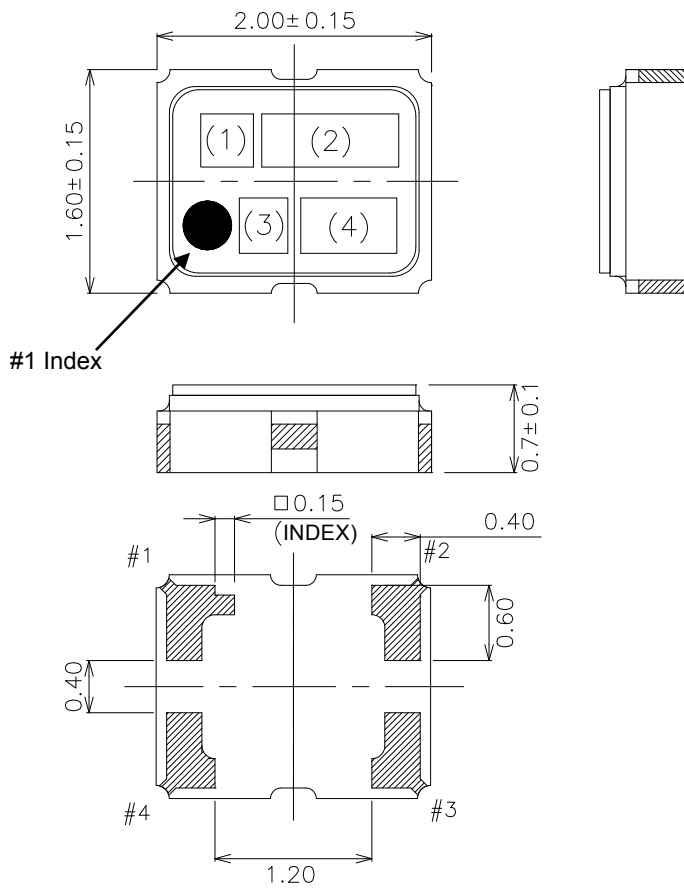
Notes

1. Clipped sine wave (DC-coupled)
2. $T_A = +25^\circ\text{C}$
3. Please leave after reflow in 2h or more at room ambient.
4. Positive slope (Frequency becomes high in proportion to frequency control voltage.)

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8. Outline, Pin Connections

Outline



Pin Connections

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

Marking

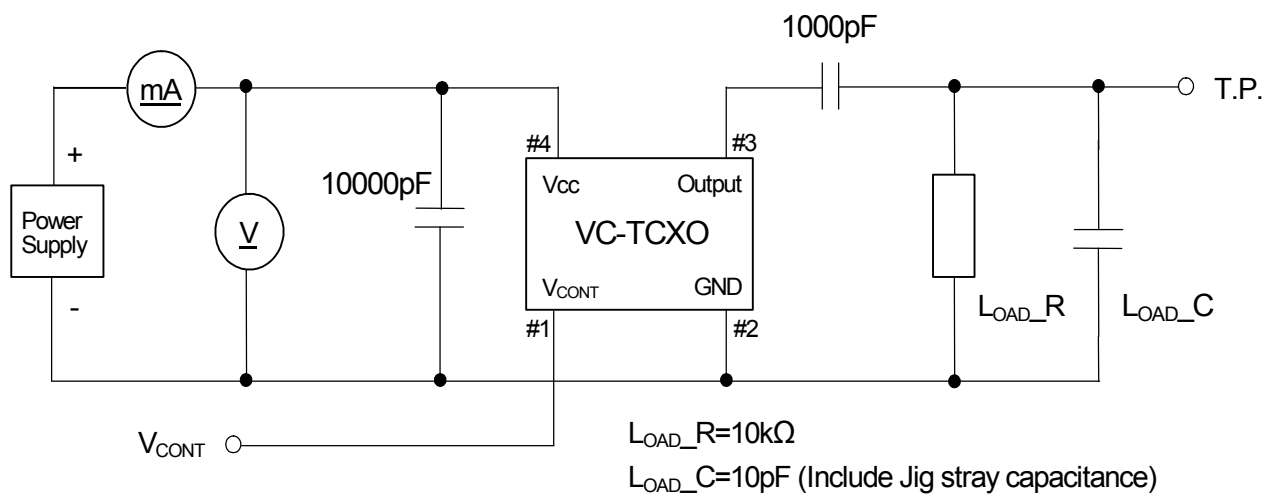
(1) Model code	AN
(2) Frequency	26.0 (MHz, 3digits)
(3) Logo	D
(4) Date code	Year (1digit) +Week (2digits) e.g.2015/1/1 → 501

unit: mm

Dimensional Tolerance: ±0.1

(Unless otherwise noted)

9. Measurement Circuit



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