DSO221SY TYPE SPXO PRELIMINARY SPECIFICATION

1. Device Name SPXO
2. Type DSO221SY
3. Frequency 32.768kHz
4. Absolute Maximum Value

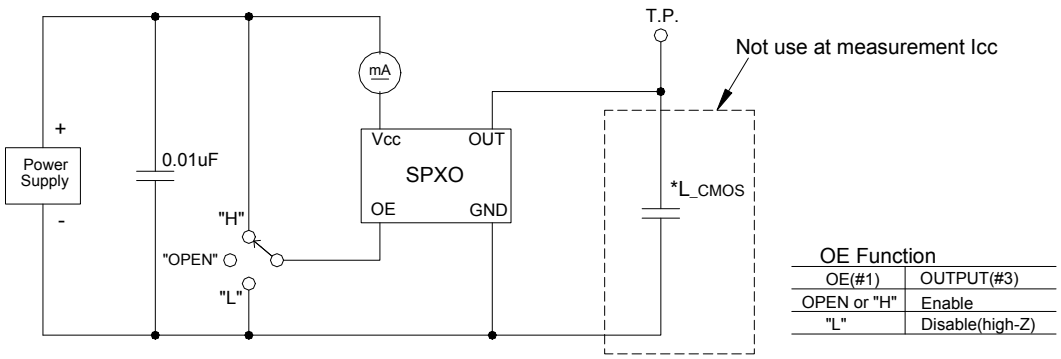
	Item	Symbol	Rating	Unit
1	Supply Voltage	V_{CC}	-0.5 to +5.0	V
2	Storage Temperature Range	T_{stg}	-40 to +85	℃

5. Recommended Operating Conditions

	Item	Symbol	min.	typ.	max.	Unit
1	Supply Voltage	V_{CC}	+3.0	+3.3	+3.6	V
2	Operating Temperature Range	T_{opr}	-40	-	+85	℃
3	Output Load	L_{-CMOS}	-	-	15	pF

6. Electrical Characteristics (T_a=+25℃, V_{CC} =+3.3V unless otherwise noted)

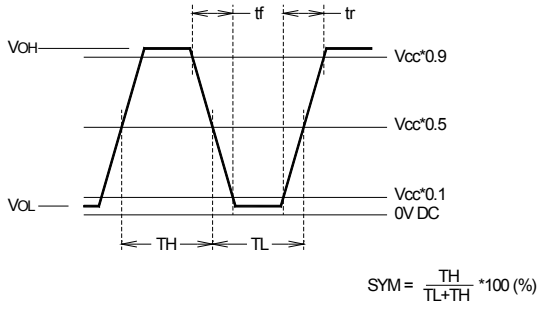
	Item	Symbol	Test Conditions	Limits			Unit
				min.	typ.	max.	
1	Frequency Tolerance	f_{tol}	V_{CC}=+3.3V+/-0.3V T_a=-40 to +85℃	-50	-	+50	ppm
2	Supply Current	I_{CC}	15pF, #1pin:"H" or open	-	-	18	uA
	Standby Current	I_{-std}	#1pin:"L"	-	-	3	uA
3	Output Character		15pF				
	3-1.Symmetry	SYM	0.5V_{CC} level	45	50	55	%
	3-2.Rise Time	t_r	0.1V_{CC} to 0.9V_{CC}	-	-	15	ns
	3-3.Fall Time	t_f	0.9V_{CC} to 0.1V_{CC}	-	-	15	ns
	3-4.Low Level	V_{OL}		-	-	V_{CC*}0.1	V
	3-5.High Level	V_{OH}		V_{CC*}0.9	-	-	V
4	Input OE						
	4-1.Output enable time	tPZL		-	-	20	ms
	4-2.Output disable time	tPLZ		-	-	100	ns
	4-3.Enable input	V_{IH}		V_{CC*}0.8	-	-	V
	4-4.Disable input	V_{IL}		-	-	V_{CC*}0.2	V



*L_{CMOS}:Total Fixture and Probe Capacitance

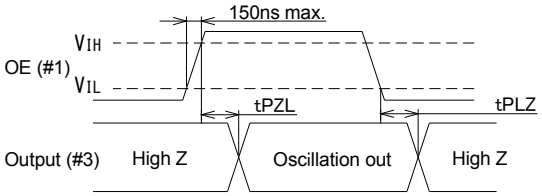
Fig1. Measurement Circuits

* Fig2. Output Waveform

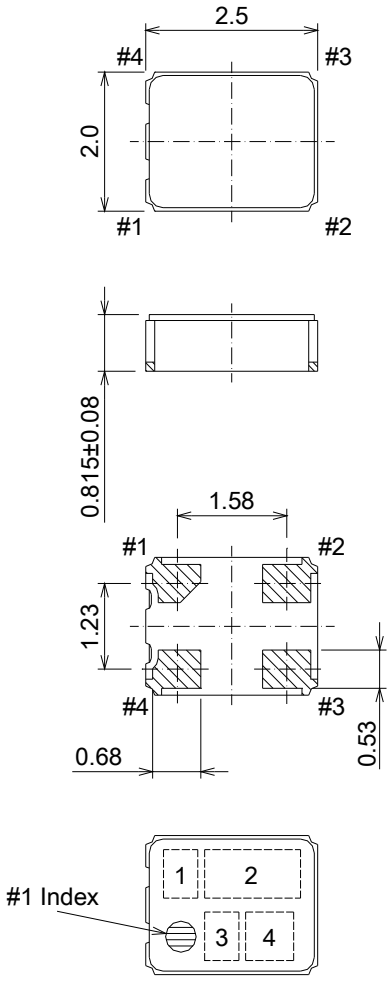


$$SYM = \frac{TH}{TL+TH} * 100\,(\%)$$

* Fig3. Input output condition



7. Outline, Pin Connections



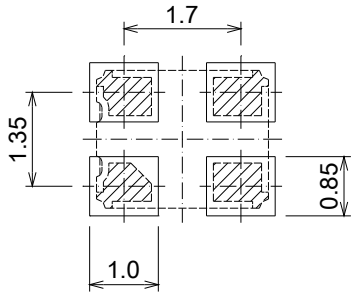
Pin Connections	
Pin No.	Connection
#1	OE(Output Enable)
#2	GND
#3	Output
#4	Vcc

Tolerance: ±0.15

unit: mm

〔Land Pattern (Reference)〕

<Top View>



1.Type : Y
2.Nominal Frequency : 0.03
3.KDS LOGO : D
4.Lot No. : Year(1digit)+Week(2digits)e.g. 2016/01/01→601