

1. Device Name SPXO
2. Model Name DSO211SXF
3. Nominal Frequency 24.000 MHz
4. Reliability AEC-Q200 Compliant
5. Absolute Maximum Ratings

	Item	Symbol	Rating		Unit
1	Supply Voltage	V _{CC}	-0.3	~ +4.5	V
2	Storage Temperature Range	T _{stg}	-40	~ +125	°C

6. Recommended Operating Conditions

	Item	Symbol	min.	typ.	max.	Unit
1	Supply Voltage	V _{CC}	+1.6	+1.8	+2.25	V
			+2.25	+2.5	+2.75	V
			+2.6	+2.8	+3.0	V
			+3.0	+3.3	+3.6	V
2	Output Load	L _{CMOS}	-	-	15	pF
3	Operating Temperature Range	T _{use}	-40	-	+125	°C

7. Electrical Characteristics (Ta=+25°C, V_{CC}= +1.8V~+3.3V, L_{CMOS}= 15 pF, unless otherwise noted)

	Item	Symbol	Condition	Limits			Unit	Notes
				min.	typ.	max.		
1	Frequency Tolerance	f _{tol}	V _{CC} =+1.8 +1.8/-0.2V, Ta=-40~+125°C	-50	-	+50	ppm	1,2
2	Current Consumption	I _{CC}	At No Load	V _{CC} =+1.8V	-	-	1.7	mA
				V _{CC} =+2.5V	-	-	2	mA
				V _{CC} =+2.8V	-	-	2.2	mA
				V _{CC} =+3.3V	-	-	2.4	mA
3	Stand-by Current	I _{std}	#1 pin "L" Level	-	-	10	μA	
4	Output Characteristics							
	1.Symmetry	SYM	V _{CC} ×0.5 Level	45	-	55	%	
	2.Rise Time / Fall Time	tr / tf	V _{CC} ×0.1 ~ V _{CC} ×0.9 Level	V _{CC} =+1.8V	-	-	5	ns
				V _{CC} =+2.5V, +2.8V,+3.3V	-	-	3	ns
	3.0 Level Voltage	V _{OL}		-	-	V _{CC} ×0.1	V	
5	4.1 Level Voltage	V _{OH}		V _{CC} ×0.9	-	-	V	
	Input OE							
	1.Output Enable Time	tPZL		-	-	2	ms	
	2.Output Disable Time	tPLZ		-	-	200	ns	
	3.0 Level Input Voltage	V _{IL}		-	-	V _{CC} ×0.3	V	
	4.1 Level Input Voltage	V _{IH}		V _{CC} ×0.7	-	-	V	

Notes

1. Ref. to nominal Frequency
2. Please leave after reflow in 8h or more at room ambient.

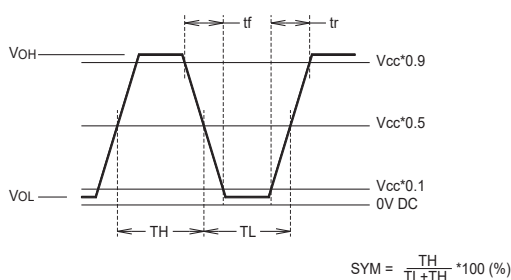


Fig.1 Output Waveform

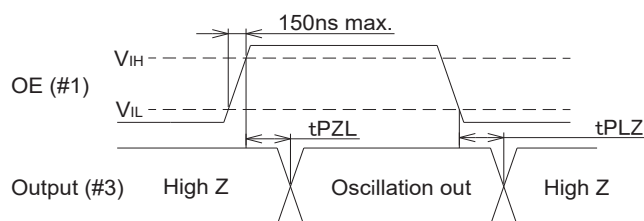
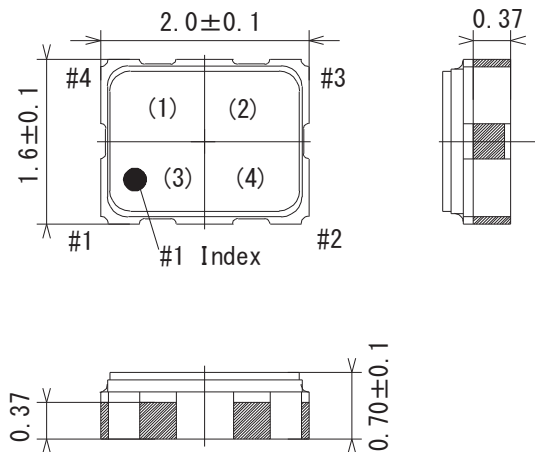


Fig.2 Input output condition

TITLE DSO211SXF TYPE SPECIFICATION		REMARK P2025-3210	
DATE 2025/12/24	SPEC. No. 7FF02400A2A	REV. -	PAGE 1 / 2

8. Outline, Pin Connections

Outline



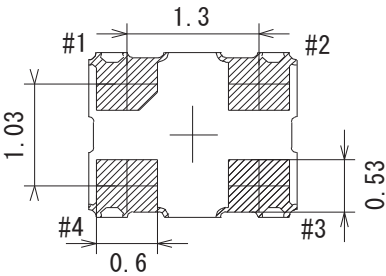
Pin Connections

Pin No.	Connection
#1	O.E.(Output Enable)
#2	GND
#3	Output
#4	Vcc

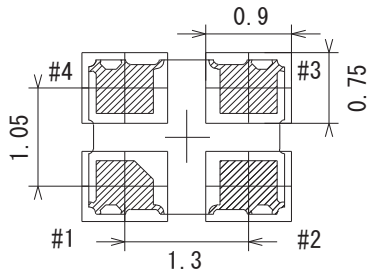
Marking

(1) Model code	XF
(2) Frequency	24.0
(3) Logo	D
(4) Lot No.	Year (1digit) +Week (2digits) e.g.2025/1/1 → 501

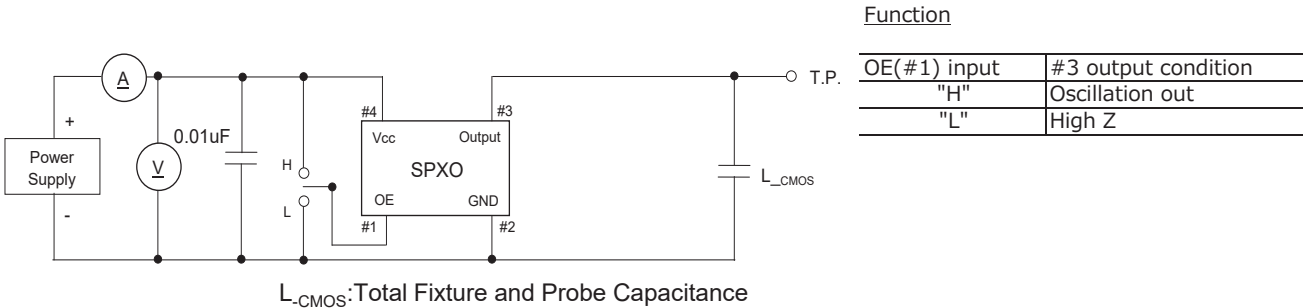
unit: mm
Dimensional Tolerance: ±0.1
(Unless otherwise noted)



Land pattern layout (Example)



9. Measurement Circuit



TITLE	REMARK		
DSO211SXF TYPE SPECIFICATION	P2025-3210		
DATE	SPEC. No.	REV.	PAGE
2025/12/24	7FF02400A2A	-	2 / 2