1. Device Name TCXO
2. Model Name DSB211SJA
3. Nominal Frequency 48 MHz
4. Mass 0.015g max.

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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}	+1.7	+1.8	+1.9	V
2	Output Load	$L_{_CMOS}$	-	-	15	pF
3	Operable Temperature Range	$T_{_OPR}$	-40	-	+85	°C

7. Electrical Characteristics (T_A=-40~+85°C, V_{CC}=+1.8V, $L_{_CMOS}$=15pF unless otherwise noted)

	Item	Condition	Limits			unit	Notes
			min.	typ.	max.		
1	Current Consumption	At No Load	-	1.6	4.0	mA	
2	Stand-by Current	#1 pin low level	-	-	+10	uA	
3	Output Characteristics						
	1.Rise Time	V_{CC}x0.1~V_{CC}x0.9	-	3.0	6.0	ns	
	2.Fall Time	V_{CC}x0.1~V_{CC}x0.9	-	3.0	6.0	ns	
	3.Low Level		-	-	V_{CC}x0.1	V	
	4.High Level		V_{CC}x0.9	-	-	V	
	5.Symmetry	V_{CC}x0.5 Level	45	50	55	%	
4	Frequency Stability						
	1.Tolerance	After 2 times reflow	-	-	±1.5	ppm	1,2
	2.vs Temperature	T_A=-40~+85°C	-	-	±2.5	ppm	3
	3.vs Supply Voltage	V_{CC}=+1.8V±0.1V	-	-	±0.2	ppm	
	4.vs Aging	T_A=Room ambient	-	-	±1.0	ppm/year	
		T_A=Room ambient	-	-	±3.0	ppm/5years	
5	Start Up Time	@90% of final V_{OUT} level	-	-	3.0	ms	

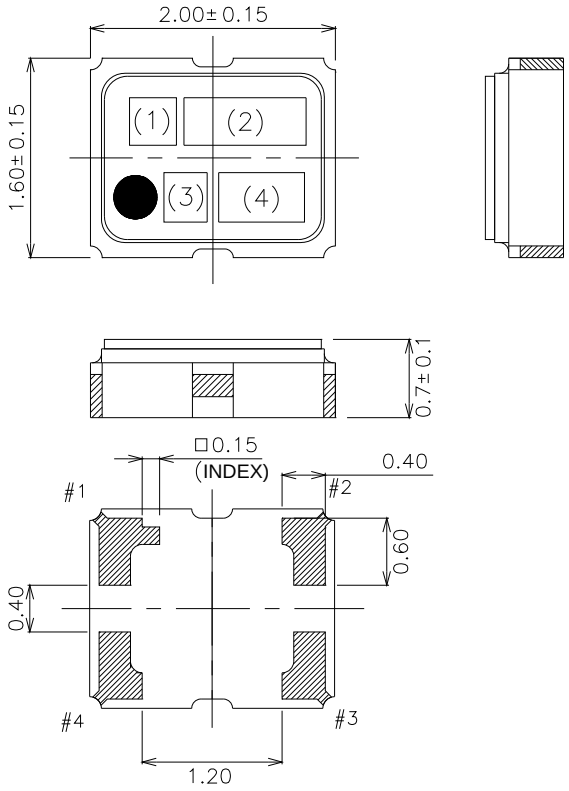
Notes
1. Ref. to nominal frequency
2. Please leave after reflow in 8h or more at room ambient.
3. Ref. to frequency (T_A=+25°C)

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8. Outline, Pin Connections

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Outline



Pin Connections

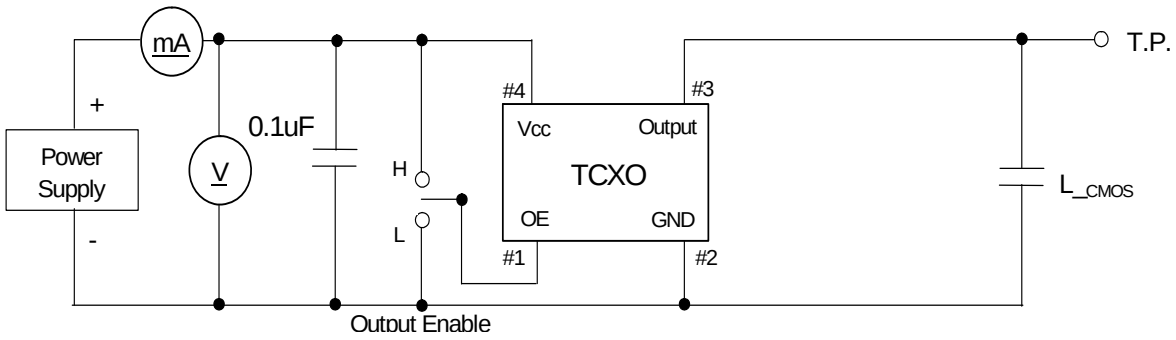
Pin No.	Connection
#1	O.E.(Output Enable)
#2	GND
#3	Output
#4	V_{CC}

Marking

(1) Model code	JA
(2) Frequency	48.0 (MHz, 3digits)
(3) Logo	D
(4) Date code	Year (1digit) +Week (2digits)
	e.g.2017/1/1 → 701

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

9. Measurement Circuit



Output Enable
H Oscillation
L Stand by

L_{CMOS}=15pF (Include Jig stray capacitance)

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