

### Features

- LVDS Output
- Temperature Ranges as wide as -40°C to +85°C
- Supply Voltages: 2.5V, 3.3V

2.5V ELECTRICAL CHARACTERISTICS		
PARAMETERS	MAX (Unless otherwise noted)	
Frequency (F <sub>0</sub> )	25.0 ~ 320.0 MHz	
Storage Temperature Range (T <sub>STG</sub> )	-55 ~ +125°C	
Supply Voltage (V <sub>DD</sub> )	2.5V±5%	
Input Current (I <sub>DD</sub> )	35 mA	
Standby Current	15 µA	
Output Symmetry (50% V <sub>P-P</sub> )	45% ~ 55%	
Rise Time (20%~80% V <sub>P-P</sub> )	0.4 nS	
Fall Time (80%~20% V <sub>P-P</sub> )	0.4 nS	
Differential Output Voltage (V <sub>OD</sub> )	0.247V ~ 0.454V	
Differential Offset Voltage (V <sub>OS</sub> )	1.125V ~ 1.375V	
V <sub>OH</sub>	1.4 Typical to 1.60 Max	
V <sub>OL</sub>	0.90 Min to 1.10 Typical	
Output Termination	100 Ohms Typical	
Start-up Time (T <sub>S</sub> )	10 mS	
Output Disable Time <sup>1</sup>	200 nS	
Output Enable Time <sup>1</sup>	10 mS	
Aging (per year @ 25C)	±3 PPM	
Phase Jitter (12kHz~5MHz), ≤ 40MHz (12kHz~20MHz), >40MHz	0.5 pS	
ENABLE / DISABLE FUNCTION		
INH (pin 1)	Out 1 (pin 4), Out 2 (pin 5)	
OPEN <sup>1</sup>	Active	
'1' Level V <sub>IH</sub> ≥ 70%V <sub>DD</sub>	Active	
'0' Level V <sub>IL</sub> ≤ 30%V <sub>DD</sub>	High Z	
Available Options by Stability & Operating Temp for 2.5V		
Frequency Stability	Operating Temperature (°C)	Frequency Range (MHz)
±100PPM <sup>2</sup>	-10 ~ +70	25.0 ~ 320.0
±100PPM <sup>2</sup>	-40 ~ +85	25.0 ~ 320.0
±100PPM <sup>2</sup>	-40 ~ +105	25.0 ~ 320.0
±50PPM <sup>2</sup>	-10 ~ +70	25.0 ~ 320.0
±50PPM <sup>2</sup>	-40 ~ +85	25.0 ~ 320.0
±50PPM <sup>2</sup>	-40 ~ +105	25.0 ~ 320.0
±25PPM <sup>2</sup>	-10 ~ +70	25.0 ~ 320.0
±25PPM <sup>2</sup>	-40 ~ +85	25.0 ~ 170.0
±20PPM <sup>3</sup>	-10 ~ +70	25.0 ~ 170.0

<sup>1</sup> An internal pull-up resistor from pin 1 to pin 6 allows active output if pin 1 is left open.

<sup>2</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, reflow, and one-year aging.

<sup>3</sup> Inclusive of 25°C tolerance and operating temperature range.

3.3V ELECTRICAL CHARACTERISTICS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency (F <sub>0</sub> )	25.0 ~ 320.0 MHz
Storage Temperature Range (T <sub>STG</sub> )	-55 ~ +125°C
Supply Voltage (V <sub>DD</sub> )	3.3V±10%
Input Current (I <sub>DD</sub> )	39 mA
Standby Current	15 µA
Output Symmetry (50% V <sub>DD</sub> )	45% ~ 55%
Rise Time (20%~80% V <sub>P-P</sub> )	0.4 nS
Fall Time (80%~20% V <sub>P-P</sub> )	0.4 nS
Differential Output Voltage (V <sub>OD</sub> )	0.247V ~ 0.454V
Differential Offset Voltage (V <sub>OS</sub> )	1.125V ~ 1.375V
V <sub>OH</sub>	1.4 Typical to 1.60 Max
V <sub>OL</sub>	0.90 Min to 1.10 Typical
Output Termination (LVDS)	100 Ohms Typical
Start-up Time (T <sub>S</sub> )	10 mS
Output Disable Time <sup>1</sup>	200 nS
Output Enable Time <sup>1</sup>	10 mS
Aging (per year @ 25C)	±3 PPM
Phase Jitter (12kHz~5MHz), ≤40MHz (12kHz~20MHz), >40MHz	0.5 pS

ENABLE / DISABLE FUNCTION	
INH (pin 1)	Out 1 (pin 4), Out 2 (pin 5)
OPEN <sup>1</sup>	Active
'1' Level V <sub>IH</sub> ≥ 70%V <sub>DD</sub>	Active
'0' Level V <sub>IL</sub> ≤ 30%V <sub>DD</sub>	High Z

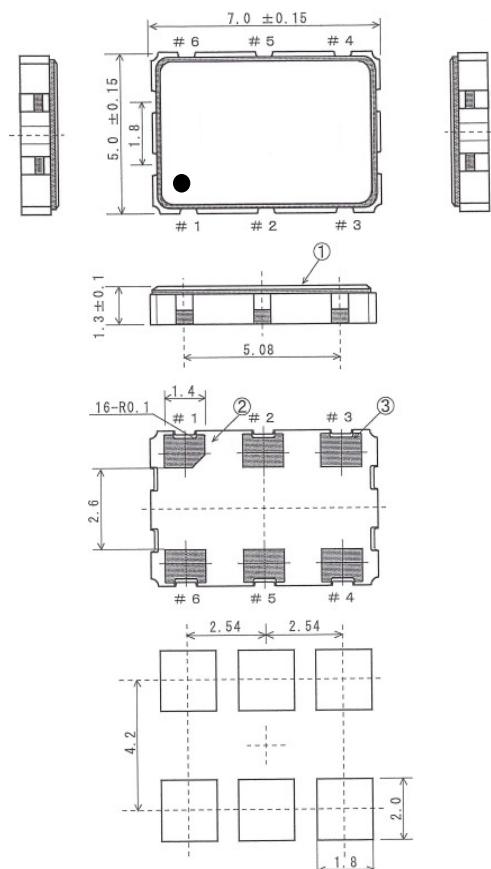
Available Options by Stability & Operating Temp for 3.3V		
Frequency Stability	Operating Temperature (°C)	Frequency Range (MHz)
±100PPM <sup>2</sup>	-10 ~ +70	25.0 ~ 320.0
±100PPM <sup>2</sup>	-40 ~ +85	25.0 ~ 320.0
±100PPM <sup>2</sup>	-40 ~ +105	25.0 ~ 320.0
±50PPM <sup>2</sup>	-10 ~ +70	25.0 ~ 320.0
±50PPM <sup>2</sup>	-40 ~ +85	25.0 ~ 320.0
±50PPM <sup>2</sup>	-40 ~ +105	25.0 ~ 320.0
±25PPM <sup>2</sup>	-10 ~ +70	25.0 ~ 320.0
±25PPM <sup>2</sup>	-40 ~ +85	25.0 ~ 170.0
±20PPM <sup>3</sup>	-10 ~ +70	25.0 ~ 170.0

<sup>1</sup> An internal pull-up resistor from pin 1 to pin 6 allows active output if pin 1 is left open.

<sup>2</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, reflow, and one-year aging.

<sup>3</sup> Inclusive of 25°C tolerance and operating temperature range.

### DIMENSIONS / MECHANICAL SPECIFICATIONS



#### Pin Connections

#1 E/D    #4 Output\_1  
 #2 N.C.    #5 Output\_2  
 #3 GND    #6 VDD

#### Note:

\*A 0.01 $\mu$ F capacitor should be placed between VDD (Pin 6) and GND (Pin 3) to minimize power supply line noise.

\*Dimensional drawing is for reference to critical specifications defined by size measurements. certain non-critical visual attributes, such as side castellation's, reference pin shape, pin 1 chamfer etc. may vary

STANDARD SPECIFICATIONS	
PARAMETERS	MAX (Unless otherwise noted)
Maximum Soldering Temp / Time	260°C / 10 Seconds x 2
Moisture Sensitivity Level (MSL) per J-STD-033	1
Termination Finish	Au (0.3~1 $\mu$ m) over Ni (1.27~8.89 $\mu$ m)
Seal Method	Seam
Lead (Pb) Free	Yes
RoHS Compliant	Yes, no exemptions
REACH Compliant	Yes

# FO7LS

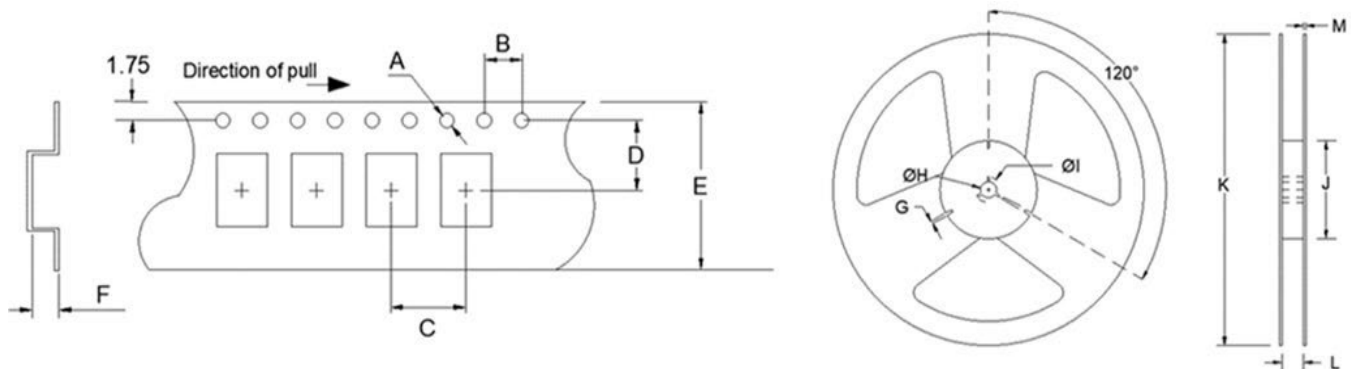
(Former F4700, F4710 Series)

7.0mm x 5.0mm

LVDS Oscillator



TAPE SPECIFICATIONS (mm)						REEL SPECIFICATIONS (mm)							
A	B	C	D	E	F	REEL QTY	G	H	I	J	K	L	M
ø1.5	4.0	8.0	7.5	16.0	2.45	-T2 = 2,000	2.0	ø13	ø21	ø80	ø255	17.5	2.0



## Available Options & Part Identification for LVDS Oscillator FO7LS\*

Sample PN: FO7LS<sub>CDM</sub>125.0-T2

F	O7LS	C	D	M	125.0	-T2
<u>Fox</u>	<u>Model Number</u>	<u>Voltage</u> H = 2.5V±5% C = 3.3V±10%	<u>Stability</u> A = ±100PPM B = ±50PPM D = ±25PPM E = ±20 PPM	<u>Operating Temperature</u> E = -10 to +70°C M = -40 to +85°C P = -40 to +105°C	<u>Frequency (MHz)</u>	<u>Values Added Options</u> Blank = Bulk T2 = 2,000 pcs

\* Not all frequencies in the frequency range, or every combination of stability, temp range, and voltage available. See stabilities and op temps table on page 2.

### Reliability Test Conditions

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