



DFXO-D

Statek's 7.0 x 5.0mm surface mount Differential Output Crystal Oscillator is designed for applications requiring low jitter and ultra high frequency differential outputs in a small footprint. Offered at frequencies from 20MHz to 300MHz with operation over a temperature range of (-40°C to +105°C). No external decoupling capacitor required with internal capacitor.

Model Name	Description
DFXO-D 2.5V	A 2.5V version
DFXO-D 3.3V	A 3.3V version

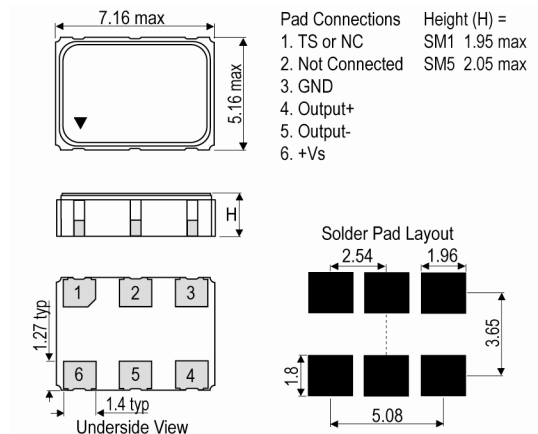
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Description

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- SM1 (Gold plated, RoHS compliant)
- SM5 (Solder dipped, RoHS compliant)
- FEATURES
 - Low phase noise
 - Low phase jitter
 - Internal 0.01µF SMD decoupling capacitor
 - Low Allan deviation
 - High Frequency Fundamental Mode Crystal
 - Extended Industrial temperature range
- APPLICATIONS
 - Avionics
 - Communications
 - Networking
- Please note that all data is only valid at 25°C unless otherwise stated.



Outline (mm) -SM5 = (Solder dipped, RoHS compliant)



Frequency Parameters

- Frequency: 20.0MHz to 160.0MHz
- Frequency Tolerance: ±25.00ppm to ±100.00ppm
- Tolerance Condition: @ 25°C
- Frequency Stability: ±25.00ppm to ±150.00ppm
- Ageing: ±5ppm max in 1st year @ 25°C

Electrical Parameters

- Supply Voltage: 2.5V ±10%
- Supply Voltage (absolute max rating): -0.5V to 4.6V

Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C
- 40 to 105°C

Output Details

- Output Compatibility: LVDS
- Drive Capability: 100Ω
- Output Differential Voltage V_{od} : 247mV min 355mV typ, 454mV max
- V_s Magnitude Change ΔV_{od} : -50mV min, 50mV max
- Output High V_{oh} : 1.4V typ, 1.6V max
- Output Low V_{ol} : 0.9V min, 1.1V typ
- Offset Voltage V_{os} : 1.125V min, 1.2V typ, 1.375V max
- Offset Magnitude Change ΔV_{os} : 0mV min, 3mV typ, 25mV max
- Power-off Leakage $V_{out}=V_s$ or GND ($V_s = 0V$): ±1µA typ, ±10µA max
- Short Circuit Current (Output) I_{osd} : -6mA typ, -8mA max
- Duty Cycle: @ 1.25V

Output Control

- Tri-State (TS):
 - Pad 1 normally high (internal pull-up resistor), output immediate
 - Pad 1 logic '0', pad 4(5) high impedance
 - Pad 1 logic '1', pad 4(5) output

or NC = No connection to pad 1

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Environmental Parameters

- Storage Temperature Range: -65 to 150°C
- Shock: Std: 5000G, 0.3ms, 1/2 sine
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10-2000Hz, swept sine. Note: Random vibration testing also available, please contact our sales offices.
- ESD Protection Human Body Model: 2kV

Manufacturing Details

- Maximum process temperature: 260°C for 10 seconds

Ordering Information

- Frequency*
- Model*
- Termination Variant*
- Output Compatibility
- Frequency Tolerance (@ 25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Supply Voltage
- Pad 1 Function*
- (*minimum required)
- Example
100.0MHz DFXO-D 2.5V SM1
±50ppm ±50ppm -10 to 70C TS

Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 1,000
- Pack Style: Tray Supplied on a tray
Pack Size: 1
- Pack Style: Bulk Bulk pack
Pack Size: 1

Electrical Specification - maximum limiting values 2.5V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time (20-80%)	Duty Cycle
		°C	ppm	mA	ns	%
20.0MHz	160.0MHz	-10 to 70	±25.0	80	1	40/60%
		-40 to 85	±25.0	80	1	40/60%
		-40 to 105	±75.0	80	1	40/60%

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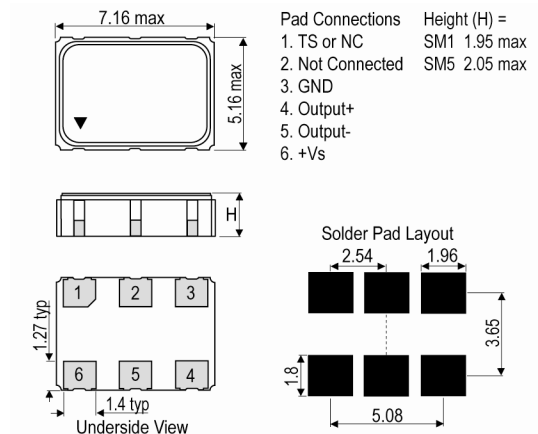
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- Tolerance Condition: @ 25°C
- Frequency Stability: ±25.00ppm to ±150.00ppm
- Ageing: ±5ppm max in 1st year @ 25°C

Electrical Parameters

- Supply Voltage: 3.3V ±10%
- Supply Voltage (absolute max rating): -0.5V to 4.6V

Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C
- 40 to 105°C

Output Details

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