



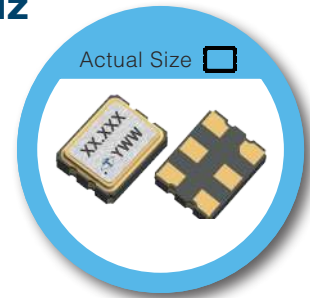
OA-M Type High Frequency up to 1.5GHz FASTXO 3.2 x 2.5 mm SMD Differential Output Crystal Oscillator

FEATURE

- Low power supply voltage: 3.3, 2.5 supply options
- Differential output : LVPECL, LVDS
- Frequency support from 10MHz to 1.5GHz
- Low noise typical: 0.6 ps at 12kHz to 20MHz frequency offsets
- Temperature range: -40 to 85 °C operation
- Pb-free/RoHS compliant

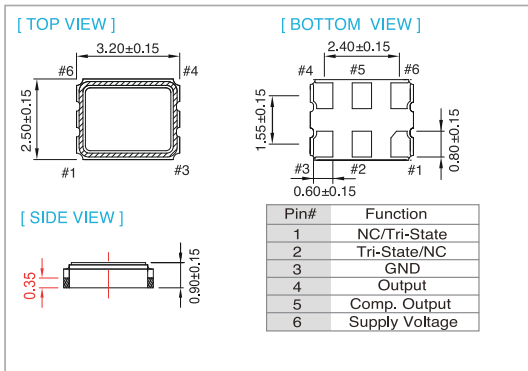
TYPICAL APPLICATION

- High-Speed Gigabite Ethernet, Fiber Channel, Storages Area Network, SONET
- Enterprise Server, SAS/SATA - Microprocessors/DSP/FPGA
- Broadband Access - Smart Grid

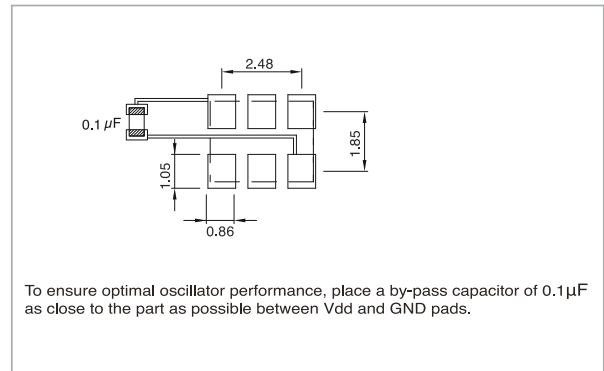


RoHS Compliant

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

Parameter	LVPECL				LVDS				unit		
	3.3 V		2.5 V		3.3 V		2.5 V				
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.			
Supply Voltage Variation (V _{DD})	V _{DD} -10%	V _{DD} +10%	V _{DD} -5%	V _{DD} +5%	V _{DD} -10%	V _{DD} +10%	V _{DD} -5%	V _{DD} +5%	V		
Frequency Range	10	1500	10	1500	10	1500	10	1500	MHz		
Supply Current	—	50	—	45	—	45	—	35	mA		
Output Level	Output High	2.27	2.7	1.47	1.9	—	1.6	—	1.6	V	
	Output Low	1.45	1.7	0.65	0.9	0.9	—	0.9	—		
Transition Time (10%-90%)	Rise Time / Fall Time		—	1.0	—	1.0	—	1.0	nSec		
Duty Cycle	45	55	45	55	45	55	45	55	%		
Startup Time	—	10	—	10	—	10	—	10	mSec		
Tri-State mode (Input to Pin 2)	Enable	0.7 x V _{DD}	—	0.7 x V _{DD}	—	0.7 x V _{DD}	—	0.7 x V _{DD}	—	V	
	Disable	—	0.3 x V _{DD}	—	0.3 x V _{DD}	—	0.3 x V _{DD}	—	0.3 x V _{DD}		
Stand by Current	—	18	—	18	—	18	—	18	mA		
Output Loading	50Ω into V _{DD} -2V				100Ω						
Phase Noise		Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.		
	At V _{DD} =3.3V, f _{out} =250MHz	1kHz offset	-107	—	-107	—	-107	—	-107	—	dBc/Hz
		10kHz offset	-111	—	-111	—	-111	—	-111	—	
		100kHz offset	-114	—	-114	—	-114	—	-114	—	
		1MHz offset	-125	—	-125	—	-125	—	-125	—	
		20MHz offset	-147	—	-147	—	-147	—	-147	—	
RMS Phase Jitter (12kHz to 20MHz)(fractional mode)	0.8	1.5	0.8	1.5	0.8	1.5	0.8	1.5	pSec		
RMS Phase Jitter (12kHz to 20MHz)(integer mode)	0.6	1.2	0.6	1.2	0.6	1.2	0.6	1.2	pSec		

FREQ. STABILITY vs. TEMP. RANGE

Temp.(°C)	ppm	
	±25	±50
-10 ~ +60	○	○
-20 ~ +70	○	○
-40 ~ +85	△	○
-40 ~ +105	×	△

* ○ : Available △:Conditional X: Not available

* Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration

Note: not all combination of options are available. Other specifications may be available upon request.