Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA
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XO3225AL-LVDS-100MHz-A
Standard Frequency Differential Oscillator

Features and Benefits

Frequency range: 100MHz
Supply voltage: 3.3V
Steady current: 47mA Typ.
Output waveform: LVDS
Frequency stability vs. operating temperature: 20ppm
Operating temperature: -40°C to +85°C
Size: 3.2x2.5x0.75mm

Typical Applications

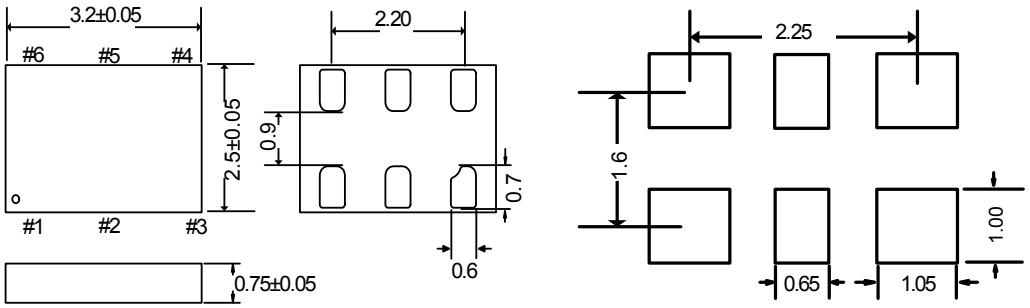
10GB Ethernet, SONET, SATA, SAS, Fiber Channel, PCI-Express
Telecom, networking, instrumentation, storage, servers

Description

XO3225AL-LVDS-100MHz-A offers 100MHz frequency, High precision and high frequency stability, allowing for high density surface mounting, ideally suited designed for use in Portable Applications.

Mechanical Drawing & Pin Connections

Drawing No: MD210008-1



Pin Description

Pin	Map	Functionality	
1	OE	Input	H or Open: specified frequency output L: output is high impedance
	$\overline{ST}$	Input	H or Open: specified frequency output L: Device goes to sleep mode. Supply current reduces to I_std.
2	NC	NA	No Connect; Leave it floating or connect to GND for better heat dissipation
3	GND	Power	VDD Power Supply Ground
4	OUT+	Output	Oscillator output
5	OUT-	Output	Complementary oscillator output
6	VDD	Power	Power supply voltage

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency	F			100		MHz	
Output				LVDS			
Rise Time / Fall Time	Tr / Tf	20-80%		495	600	psec	
Output Voltage High			90%Vdd			V	
Output Voltage Low					10%Vdd		
Startup Time		Measured from the time Vdd reaches its rated minimum value		6	10	msec	
Resume Time		Measured from the time ST pin crosses 50% threshold		6	10	msec	
Input pull up Impedance		Pin1, OE logic high or logic low, or ST logic high		100	250	Kohm	
		Pin1,ST logic low	2			Mohm	
Symmetry (Duty ratio)		All Vdds	45		55	%	
Power Supply							
Supply Voltage	V_{dd}		2.25	3.3	3.63	V	
Current Consumption		Excluding Load Termination Current, Vdd =3.3 or 2.5V		47	55	mA	
OE Disable Supply Current		OE = Low			35	mA	
Differential Output Voltage	VOD	See below figure	250	350	450	mV	
VOD Magnitude Change		See below figure			50	mV	
Offset Voltage	VOS	See below figure	1.125	1.2	1.375	V	
VOS Magnitude Change		See below figure			50	mV	
Output Disable Leakage Current		OE = Low			1	uA	
Standby Current		ST = Low, for all Vdds			100	uA	
Input High Voltage		Pin 1, OE or ST	70% Vdd			V	
Input Low Voltage		Pin 1, OE or ST			30%Vdd	V	
Frequency Stability							
Frequency Stability				±20		ppm	
Aging		@+25°C 1st year	-2		+2	ppm	
Aging		@+25°C 10 years	-5		+5	ppm	
RMS Period Jitter		f = 200.00 MHz, VDD = 3.3V or 2.5V		1.2	1.7	psec	

Environmental Conditions	
Operating temperature range	-40°C to +85°C
Storage temperature range	-55°C to +125°C
Mechanic shock	MIL-STD-883F, method 2002
Mechanic vibration	MIL-STD-883F, method 2007
Temperature cycle	JESD22, method A104
Solderability	MIL-STD-883F, method 2003
Moisture sensitivity level	MSL1@260°C

Termination Diagrams LVDS