

# LKC500003 Datasheet



DiGi Electronics Part Number	LKC500003-DG
Manufacturer	<a href="#">Diodes Incorporated</a>
Manufacturer Product Number	LKC500003
Description	XTAL OSC XO 125.0000MHZ LVDS
Detailed Description	125 MHz XO (Standard) LVDS Oscillator 3.3V

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## Purchase and inquiry

Manufacturer Product Number:

LKC500003

Series:

SaRonix-eCera™ LK

Base Resonator:

Crystal

Frequency:

125 MHz

Voltage - Supply:

3.3V

Operating Temperature:

-40°C ~ 85°C

Manufacturer:

Diodes Incorporated

Product Status:

Active

Type:

XO (Standard)

Output:

LVDS

Absolute Pull Range (APR):

-

Size / Dimension:

0.126" L x 0.098" W (3.20mm x 2.50mm)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

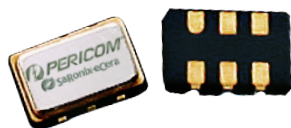
1 (Unlimited)

ECCN:

EAR99

## 3.3V LVDS Low Jitter XO

LK



3.2 x 2.5mm Ceramic SMD

## Product Features

- 27 to 160 MHz Frequency Range
- <1 ps RMS jitter with non-PLL design
- Designed for standard reflow & washing techniques
- IBIS models available
- Pb-free & RoHS/Green compliant

## Product Description

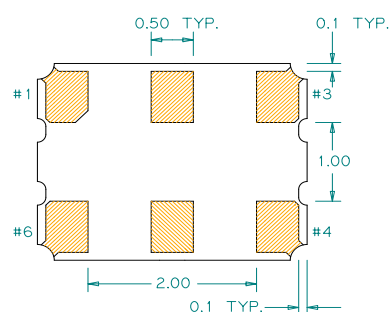
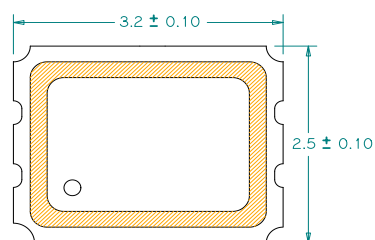
The LK Series 3.3V crystal clock oscillator achieves superb jitter and stability over a broad range of operating conditions and frequencies. The output clock signal, generated internally with a non-PLL oscillator design, is compatible with LVDS logic levels. The device, available on tape and reel, is contained in a 3.2 x 2.5mm surface-mount ceramic package.

## Applications

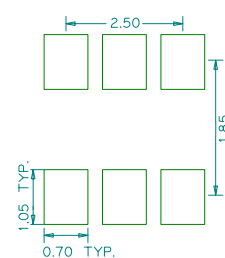
The LK Series is ideal for high-speed applications requiring low jitter, including:

- 1/10 Gigabit Ethernet
- 2/4/10G FibreChannel
- Serial Attached SCSI (SAS)
- Server & Storage platforms
- SONET/SDH linecards
- Passive Optical Network (PON) devices
- HD Video Systems

## Package: (Scale: none; dimensions are in mm)



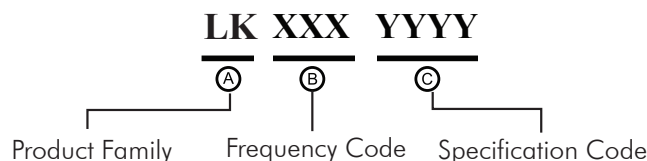
## Recommended Land Pattern:



## Pin Functions:

Pin	Function
1	OE or NC
2	NC or OE
3	Ground
4	Q Output
5	$\bar{Q}$ Output
6	V <sub>CC</sub>

## Part Ordering Information:



Following the above format, Saronix-eCera part numbers will be assigned upon confirmation of exact customer requirements.

**3.3V LVDS Low Jitter XO LK****LK Series Crystal Clock Oscillator (XO)  
3.2 x 2.5mm****Electrical Performance**

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency	27		160	MHz	As specified
Supply Voltage	2.97	3.30	3.63	V	
Supply Current, Enabled			40	mA	
Supply Current, Disabled			10	uA	
Frequency Stability			±20 to ±50	ppm	See Note 1 below
Operating Temperature Range	-20		+70	°C	Commercial (standard)
	-40		+85		Industrial (standard)
Output Logic 0, V <sub>OL</sub>	0.9	1.1		V	
Output Logic 1, V <sub>OH</sub>		1.43	1.6	V	
Output Load	100Ω connected between both outputs				output requires termination
Duty Cycle	45		55	%	measured 50% of waveform
Rise and Fall Time		500	850	ps	measured 20/80% of waveform
Jitter, Phase		0.5	1	ps RMS (1-σ)	12kHz to 20MHz frequency band
Jitter, Total			40	ps pk-pk	100,000 random periods

**Notes:**

1. Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (5 year at 40°C average effective ambient temperature), shock and vibration.
2. For specifications other than those listed, please contact sales.

**Output Enable / Disable Function**

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin OE), Output Enable	0.7			V	or open
Input Voltage (pin OE), Output Disable (low power standby)			0.3	V	Output disabled to Hi-Z
Internal Pullup Resistance	50			kΩ	
Output Disable Delay			200	ns	
Output Enable Delay			2	ms	

**Absolute Maximum Ratings**

Parameter	Min.	Typ.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	

For the latest product information visit: [http://www.pericom.com/products/timing/oscillators/LK\\_3.3V/](http://www.pericom.com/products/timing/oscillators/LK_3.3V/)

For test circuit go to: [http://www.pericom.com/pdf/sre/tc\\_lvds.pdf](http://www.pericom.com/pdf/sre/tc_lvds.pdf)

For soLKering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow2.pdf>

For tape and reel information go to: [http://www.pericom.com/pdf/sre/tr\\_3225\\_xo.pdf](http://www.pericom.com/pdf/sre/tr_3225_xo.pdf)

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