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## ***PRODUCT SPECIFICATION***

NOMINAL FREQUENCY	125.000000 MHz
PRODUCT TYPE	TYPE LK 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR
SPEC. NO. ( P/N )	LKC500005Q
ISSUE DATE	April 14, 2022
VERSION	B

### Diodes Incorporated

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- \*Pb-free
- \*RoHS Compliant
- \*HF-Halogen Free
- \*REACH Compliant
- \*AEC-Q200 Compliant
- \*MSL: Level 1

**TYPE LK 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR**

***LKC500005Q***

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**VERSION HISTORY**

Version No.	Version Date	Description	Notes
A	Dec.18,2017	Initial Release	
B	Apr.14,2022	1. Modified marking 2. Updated format	



# TYPE LK 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

## LKC500005Q

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### ELECTRICAL SPECIFICATIONS

SRe Part Number : LKC500005Q

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	F <sub>0</sub>	125.000000	MHz	
Frequency Stability	FT	± 25	ppm	**See note
Operating Temperature Range	TR	-40 to +85	°C	
Supply Voltage	V <sub>CC</sub>	+3.3 ± 10.0%	V	
Logic Type	LT	LVDS		
Supply Current, Output Enabled	I <sub>CC/OE</sub>	40	mA	Max.
Supply Current, Output Disabled	I <sub>CC/OD</sub>	10	uA	Max.
Duty Cycle (Symmetry)	DC/SY	45 / 55	%	Measured 50% of Waveform
Rise / Fall Time	T <sub>R</sub> /T <sub>F</sub>	0.85	ns	Max. measured 20/80% of Waveform
Output Voltage "0" Level	V <sub>OL</sub>	1.10 / 0.9	V	Typ. / Min.
Output Voltage "1" Level	V <sub>OH</sub>	1.43 / 1.6	V	Typ. / Max.
Output Load		100Ω & 5pF LVDS		
Jitter, Phase	RMS	1	ps	Max. 12KHz ~ 20MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	4	ps	Typ. 20,000 Consecutive Periods
Jitter, Peak to Peak	Pk-Pk	40	ps	Max. 100,000 Random Periods
Start Up Time		10	ms	Max.
Storage Temperature Range		-55 to +125	°C	

**\*\*Stability includes all combinations of Operating Temperature, Load changes, rated Input (Supply) Voltage changes, Initial Calibration Tolerance (25°C), Aging (5 years at 40°C Average Effective Ambient Temperature), Shock and Vibration.**

#### Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (Pin1), Output Enable	0.7V <sub>CC</sub>			V	Or Open
Input Voltage (Pin1), Output Disable (low power standby)			0.3V <sub>CC</sub>	V	Output is Hi-Z
Output Disable Delay			0.2	μs	
Output Enable Delay			2	ms	

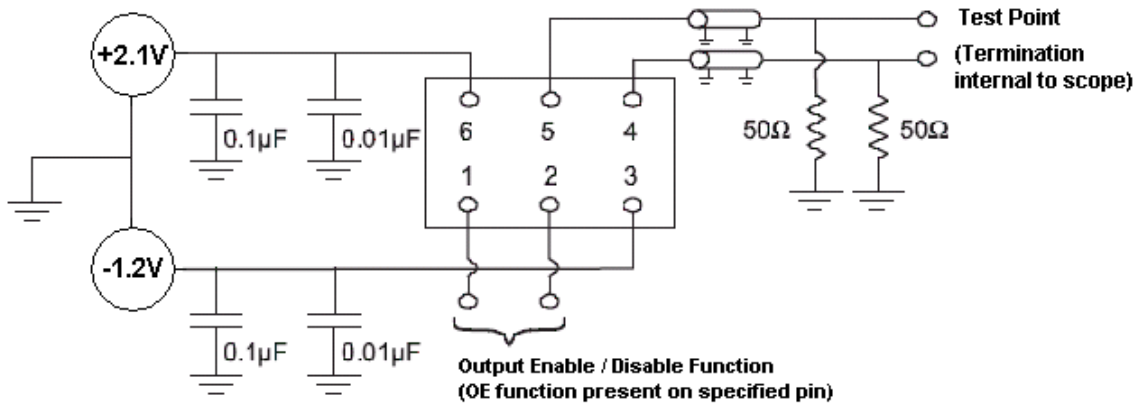


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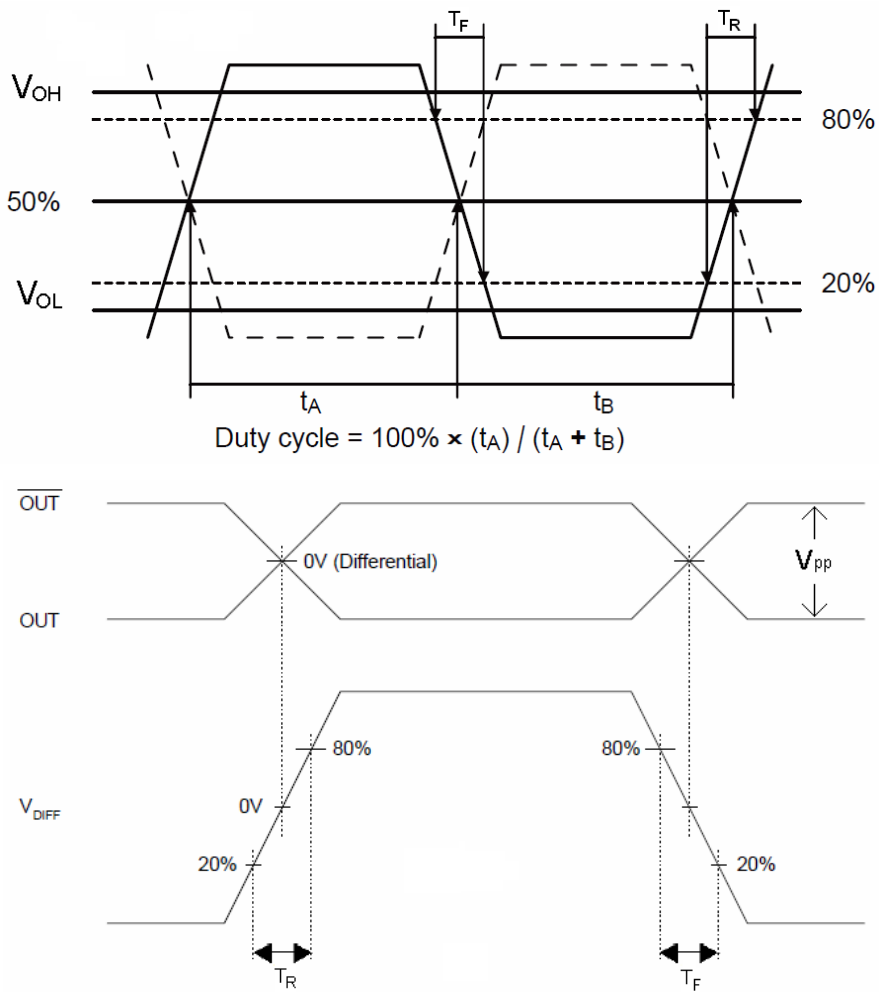
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### TEST CIRCUIT



### OUTPUT WAVEFORM



### AEC-Q200 RELIABILITY TEST SPECIFICATIONS:

#### 1. Initial

- 1.1 Physical Dimensions: JESD22, Method JB1-100
- 1.2 External Visual: MIL-STD-883, Method 2009
- 1.3 Freq. Vs. Temperature: Per Specification/Datasheet

#### 2. Mechanical

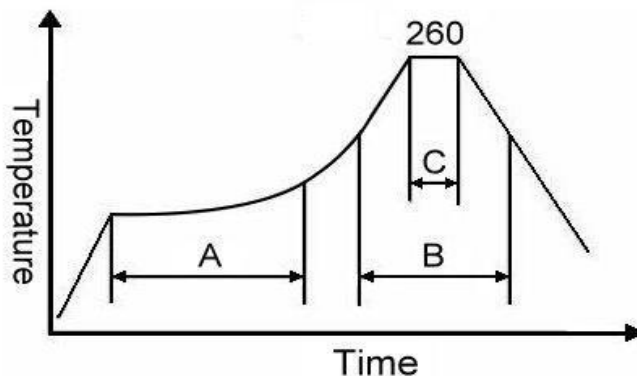
- 2.1 Mechanical Shock: MIL-STD-202 Method 213
- 2.2 Vibration: MIL-STD-202 Method 204
- 2.3 Solderability: J-STD-002
- 2.4 Board Flex: AEC Q200-005
- 2.5 Terminal Strength (SMD): AEC Q200-006

#### 3. Environmental

- 3.1 Temperature Cycle: JESD22, Method JA-104
- 3.2 Resistance to Solder Heat: MIL-STD-202 Method 210
- 3.3 High Temperature Operating Life: MIL-STD-202, Method 108
- 3.4 High Temperature Exposure: MIL-STD-202, Method 108
- 3.5 High Temperature & High Humidity: MIL-STD-202, Method 103
- 3.6 Thermal Shock: MIL-STD-202, Method 107
- 3.7 ESD Testing : JEDEC JS-001 / JEDEC JS-002
- 3.8 Latch up Testing : JESD78

### SUGGESTED IR REFLOW PROFILE

\*As per IPC-JEDEC J-STD-020D



Note:

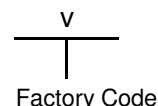
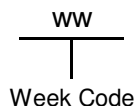
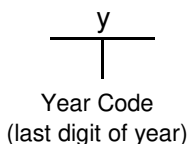
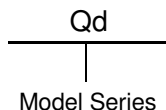
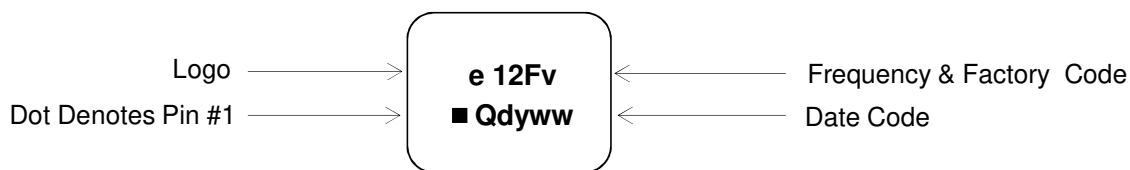
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

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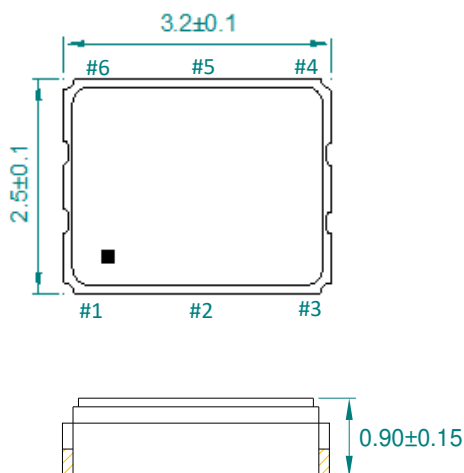
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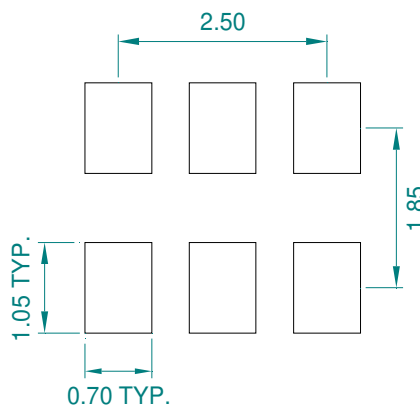
## MARKING



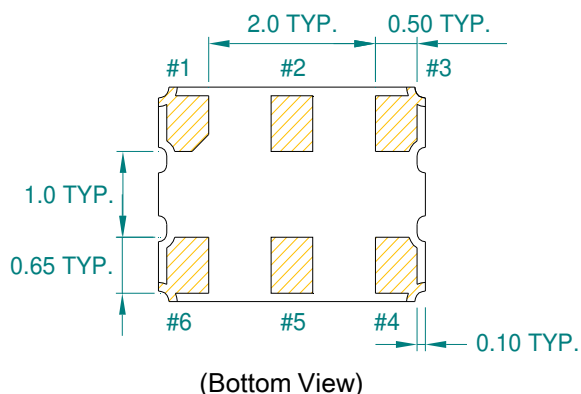
## MECHANICAL DRAWINGS ( Scale: None. Dimensions are in mm.)



### Recommended Land Pattern\*



\*External high-frequency power decoupling is recommended. (see test circuit for minimum recommendation). To ensure optimal performance, do not route traces beneath the package.



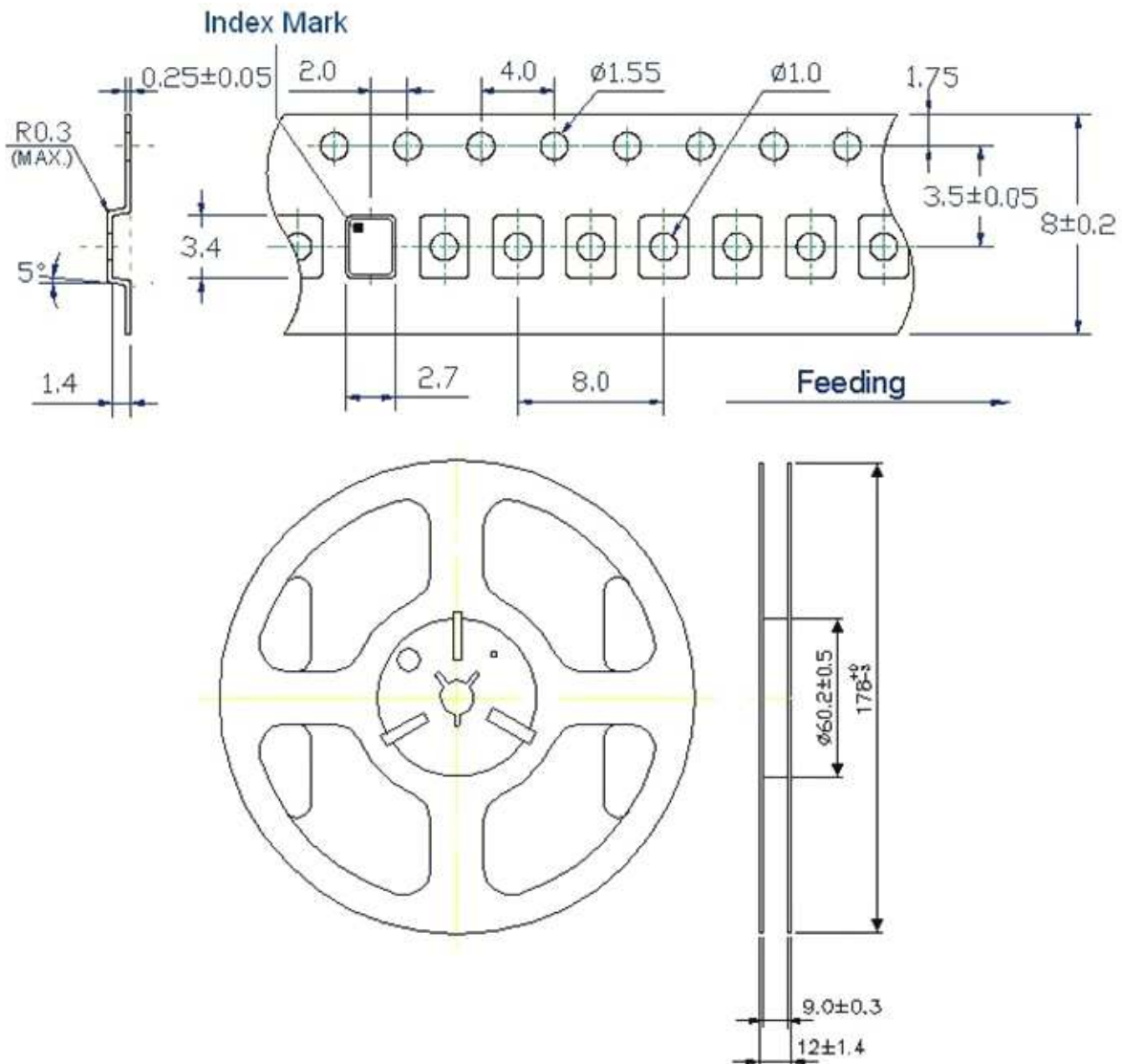
Pin	Function
1	EN
2	NC
3	V <sub>EE</sub>
4	OUTPUT
5	OUTPUT N
6	V <sub>CC</sub>

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## TAPE & REEL



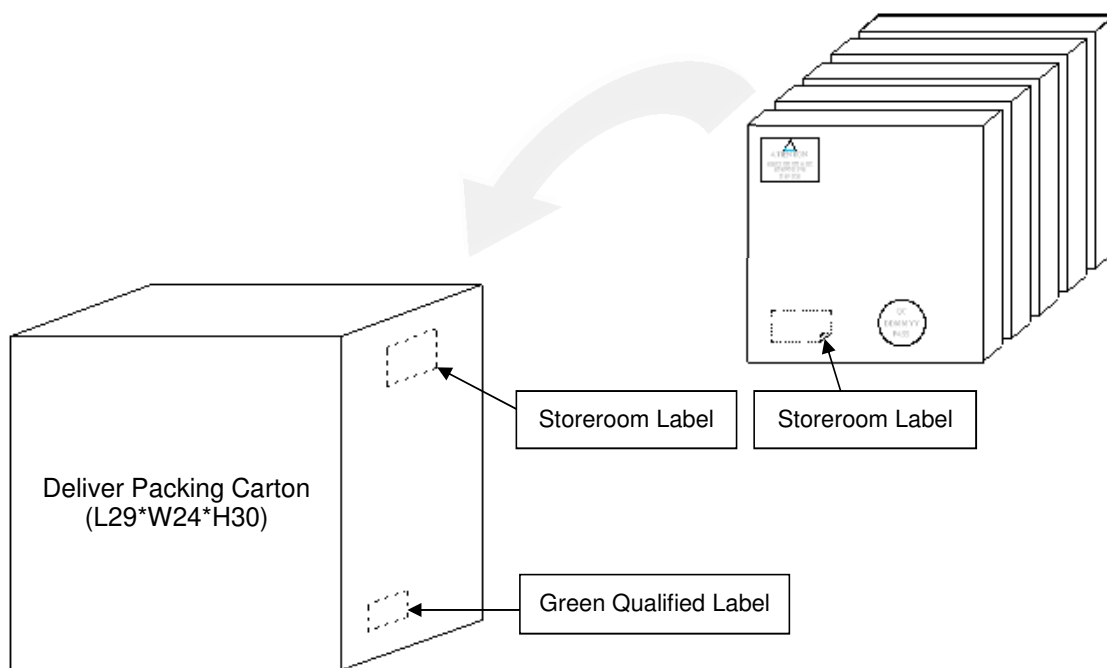
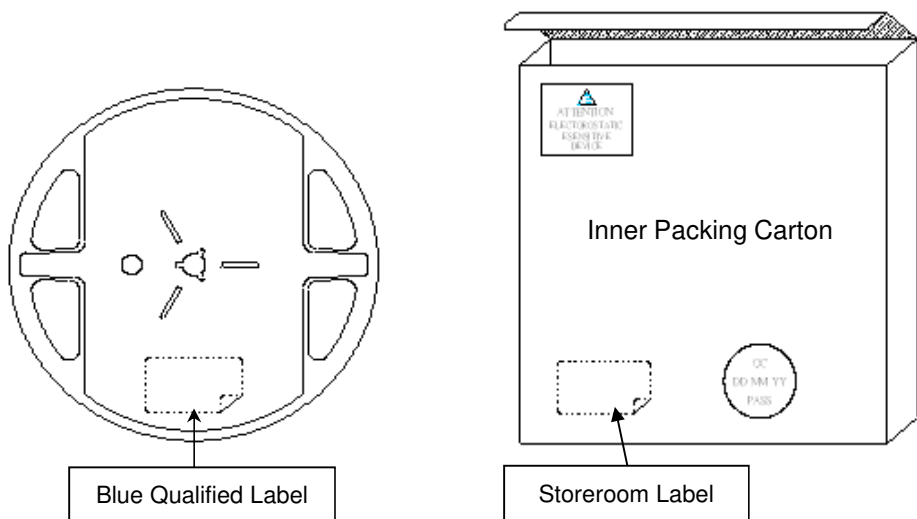
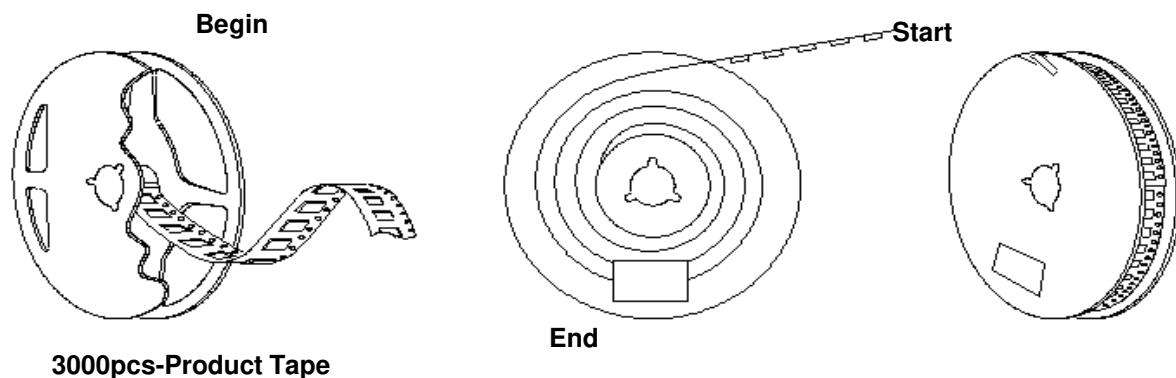
1. 230mm minimum leader which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

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### PACKING





单击下面可查看定价，库存，交付和生命周期等信息

[>>Diodes Incorporated\(达达科技\(美台\)\)](#)