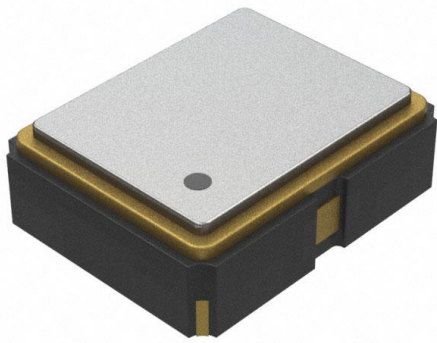


# FJA000007Q Datasheet

[www.digi-electronics.com](http://www.digi-electronics.com)



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	FJA000007Q-DG
Manufacturer	<a href="#">Diodes Incorporated</a>
Manufacturer Product Number	FJA000007Q
Description	XTAL OSC XO 100.0000MHZ CMOS SMD
Detailed Description	100 MHz XO (Standard) CMOS Oscillator 3.3V 4-SMD , No Lead



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

FJA000007Q

Series:

SaRonix-eCera™ FJ

Base Resonator:

Crystal

Frequency:

100 MHz

Voltage - Supply:

3.3V

Operating Temperature:

-40°C ~ 85°C

Package / Case:

4-SMD, No Lead

Height - Seated (Max):

0.039" (1.00mm)

Manufacturer:

Diodes Incorporated

Product Status:

Active

Type:

XO (Standard)

Output:

CMOS

Absolute Pull Range (APR):

-

Mounting Type:

Surface Mount

Size / Dimension:

0.098" L x 0.079" W (2.50mm x 2.00mm)

Base Product Number:

FJA000007

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99



A Product Line of  
Diodes Incorporated



## SPECIFICATION FOR APPROVAL

CUSTOMER	_____
NOMINAL FREQUENCY	100.000000 MHz
PRODUCT TYPE	TYPE FJ 2.5x2.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR
SPEC. NO. ( P/N )	FJA000007Q
CUSTOMER P/N	_____
ISSUE DATE	June 11, 2018
VERSION	B

APPROVED	PREPARED	QA
<i>Brenda</i>	<i>rich</i>	<i>Song Yang</i>

### Diodes Incorporated

No.2, Ziqiang 5th Rd., Zhongli Industrial Park,  
Zhongli Dist., Taoyuan City 32063, Taiwan (R.O.C.)  
TEL: 886-3-451-8888  
FAX: 886-3-461-3865  
<https://www.diodes.com>

**\*Pb-free**  
**\*RoHS Compliant**  
**\*HF-Halogen Free**  
**\*REACH Compliant**  
**\*AEC-Q200 Compliant**

**TYPE FJ 2.5x2.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR**

***FJA000007Q***

VER. B 11-Jun-18

**VERSION HISTORY**

Version No.	Version Date	Description	Notes
A	Mar.10,2016	Initial Release	
B	Mar.8,2018	Updated logo	



**TYPE FJ 2.5x2.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR****FJA000007Q**

VER. B 11-Jun-18

**ELECTRICAL SPECIFICATIONS****SRe Part Number : FJA000007Q**

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fo	100.000000	MHz	
Frequency Stability	FT	± 25	ppm	**See note
Operating Temperature Range	TR	-40 to +85	°C	
Supply Voltage	V <sub>DD</sub>	+3.3 ± 10%	V	
Logic Type	LT	LVC MOS		
Supply Current, Output Enabled	I <sub>DD</sub> /OE	15	mA	Max
Supply Current, Output Disabled	I <sub>DD</sub> /OD	10	µA	Max
Duty Cycle (Symmetry)	DC/SY	45 / 55	%	Measured 50% of Waveform
Rise / Fall Time	T <sub>R</sub> /T <sub>F</sub>	6	ns	Max. measured 10 / 90% of Waveform
Output Voltage "0" Level	V <sub>OL</sub>	10% V <sub>DD</sub>	V	Max
Output Voltage "1" Level	V <sub>OH</sub>	90% V <sub>DD</sub>	V	Min
Output Load	CL	15	pF	Max
Jitter, Phase	RMS	1	ps	Max. 12kHz ~ 5MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	5	ps	Typ. 20,000 Consecutive Periods
Jitter, Peak to Peak	Pk-Pk	30	ps	Max. 100,000 Random Periods
Start Up Time		10	ms	Max.
Storage Temperature Range		-55 to +125	°C	

※ This product doesn't include harmful substance that stipulated by SONY SS-00259 Level 1 and S-AT2-001 Level 1 standard. RoHS Compliant (Pb - Free).

\*\*Stability includes all combinations of Operating Temperature, Load changes, rated Input (Supply) Voltage changes, Initial Calibration Tolerance (25°C), Aging (1 year at 25°C Average Effective Ambient Temperature), Shock and Vibration.

**Output Enable / Disable Function**

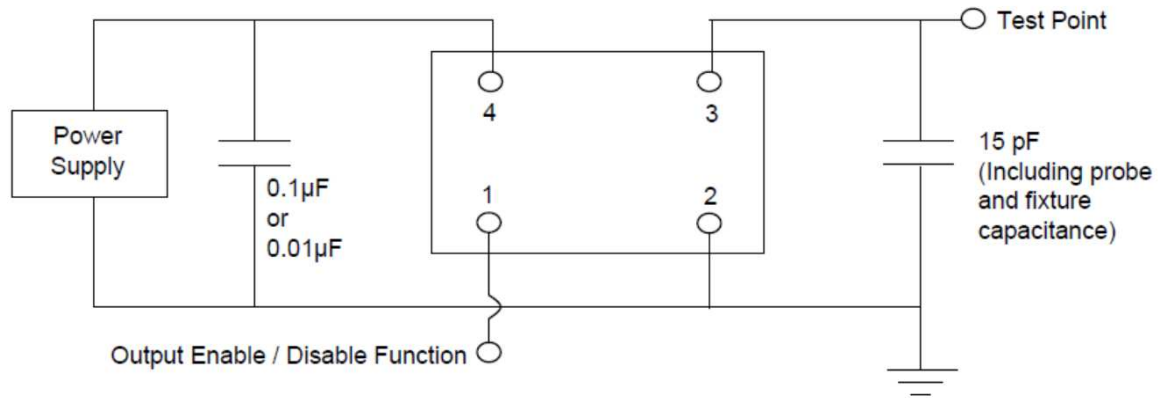
Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (Pin1), Output Enable	0.7V <sub>DD</sub>			V	Or Open
Input Voltage (Pin1), Output Disable (low power standby)			0.3V <sub>DD</sub>	V	Output is Hi-Z
Internal Pullup Resistance	30			KΩ	
Output Disable Delay			200	ns	

# TYPE FJ 2.5x2.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

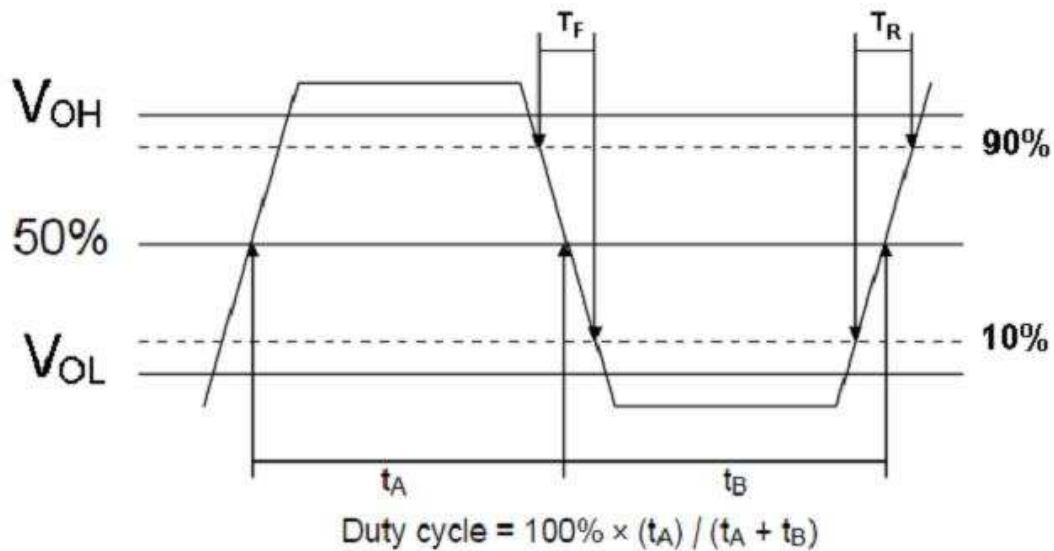
## FJA000007Q

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### TEST CIRCUIT



### OUTPUT WAVEFORM



**TYPE FJ 2.5x2.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR****FJA000007Q**

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**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**

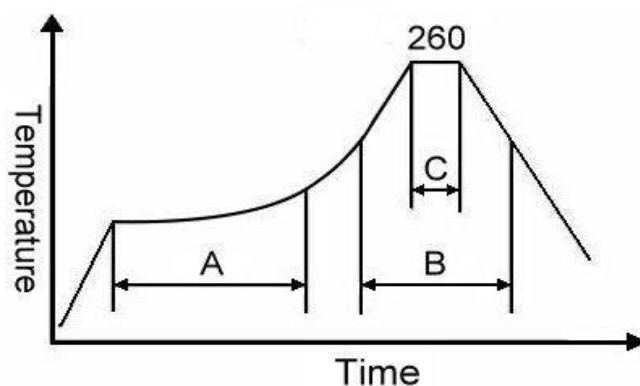
- 2.1 Mechanical Shock: MIL-STD-202 Method 213
- 2.2 Vibration: MIL-STD-202 Method 204
- 2.3 Solderability: J-STD-002
- 2.4 Board Flex: AEC Q200-005
- 2.5 Terminal Strength (SMD): AEC Q200-006

**3.Environmental**

- 3.1 Temp 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 Temp Exposure: MIL-STD-202, Method 108
- 3.5 High Temp & High Humidity: MIL-STD-202, Method 103
- 3.6 Thermal Shock: MIL-STD-202, Method 107

**SUGGESTED IR REFLOW PROFILE**

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



Note:

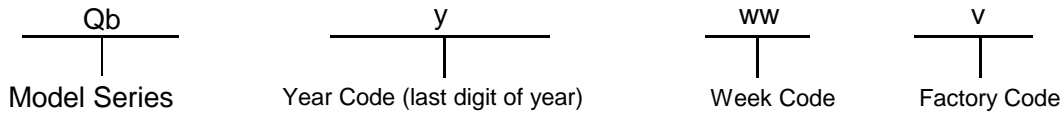
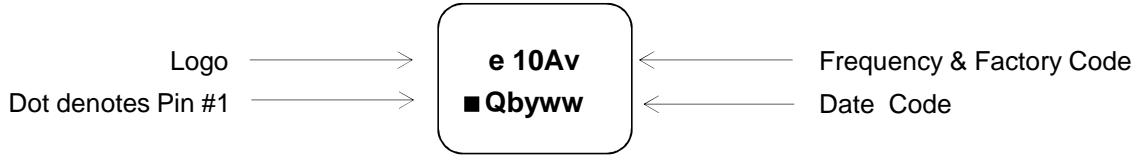
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

# TYPE FJ 2.5x2.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

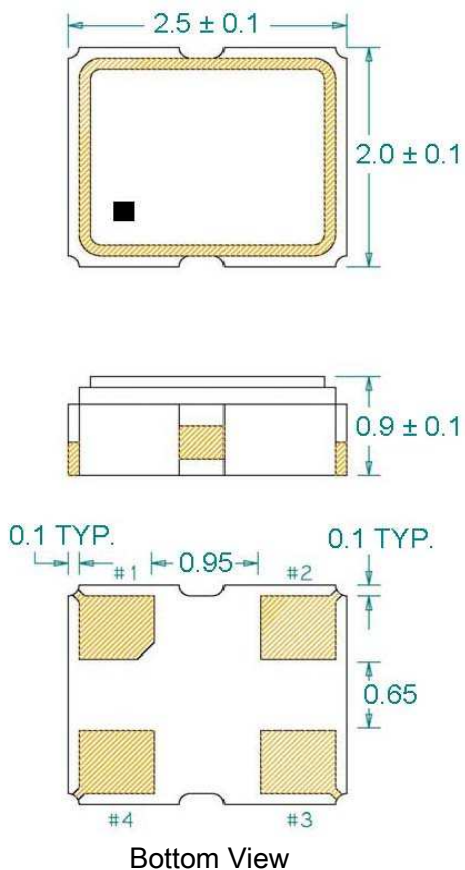
## FJA000007Q

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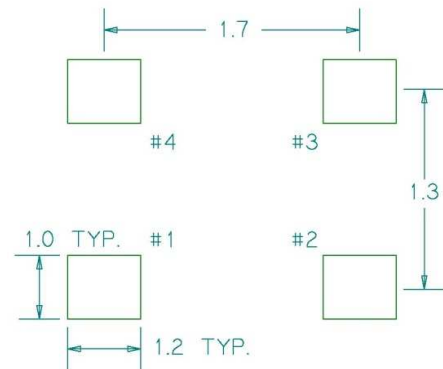
### MARKING



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



#### Recommended Land Pattern\*



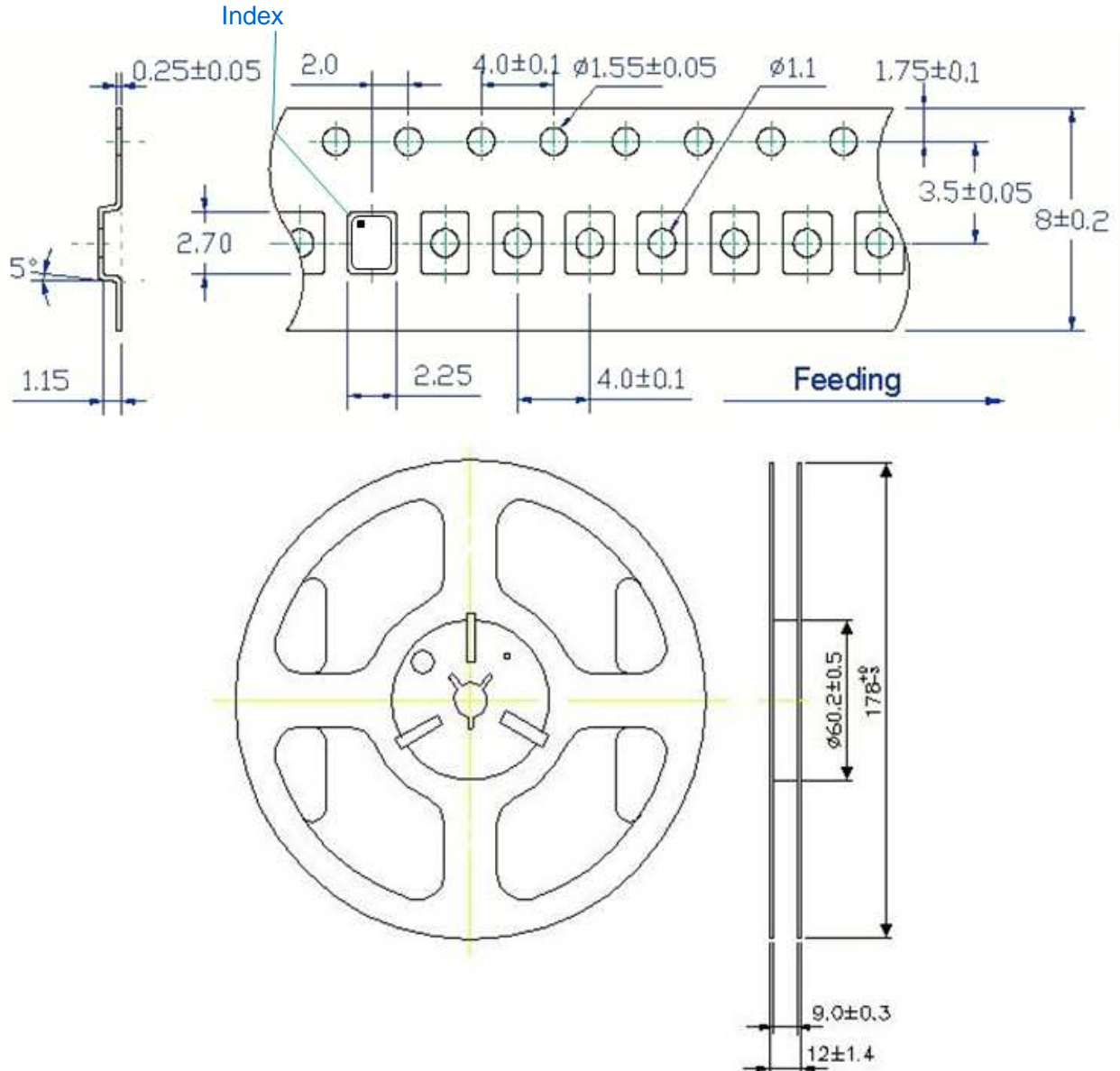
\*External high-frequency power decoupling is recommended.(see test circuit for minimum recommendation). To ensure optimal performance, do not route traces beneath the package.

Pin	Function
1	OE
2	Ground
3	Clock Output
4	V <sub>DD</sub>



**TYPE FJ 2.5x2.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR****FJA000007Q**

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**TAPE & REEL**

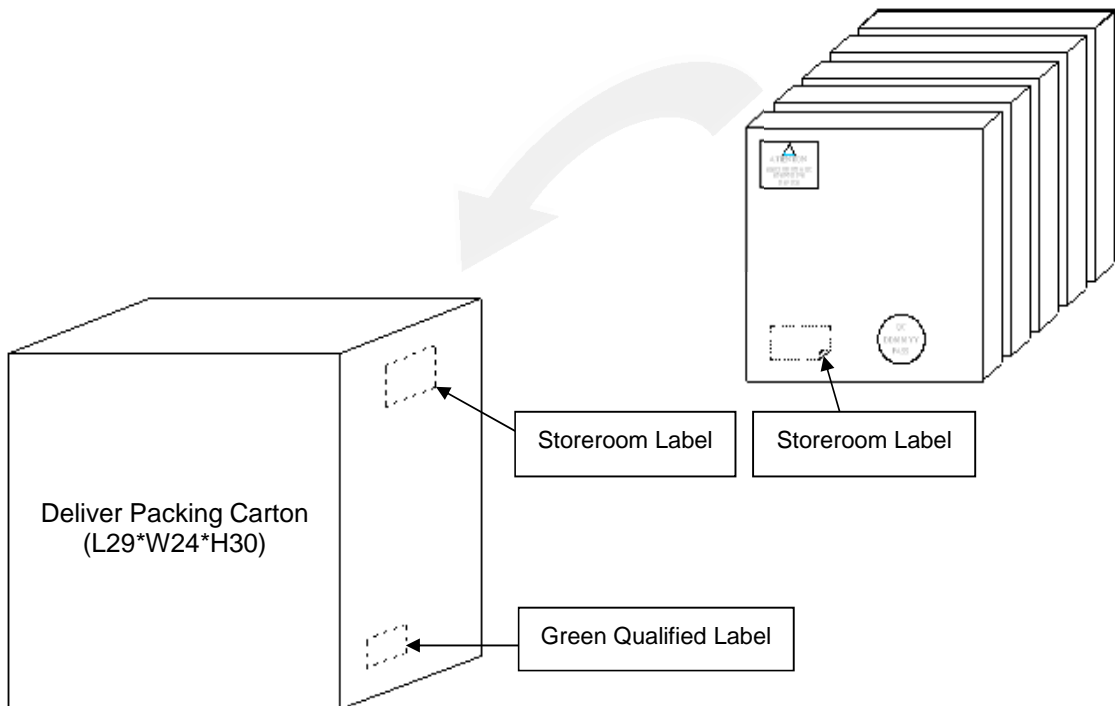
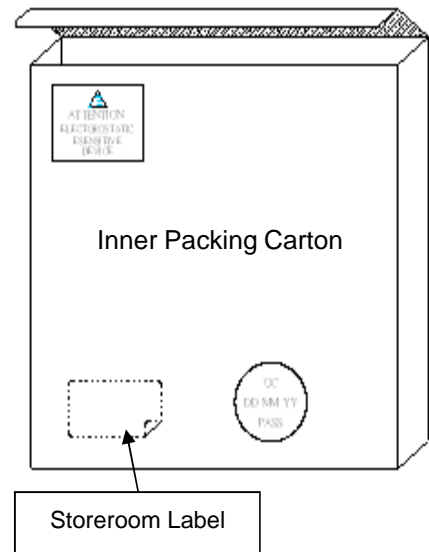
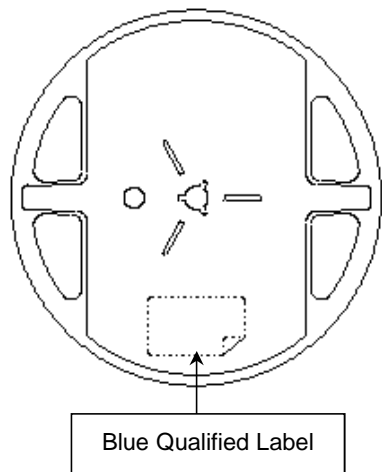
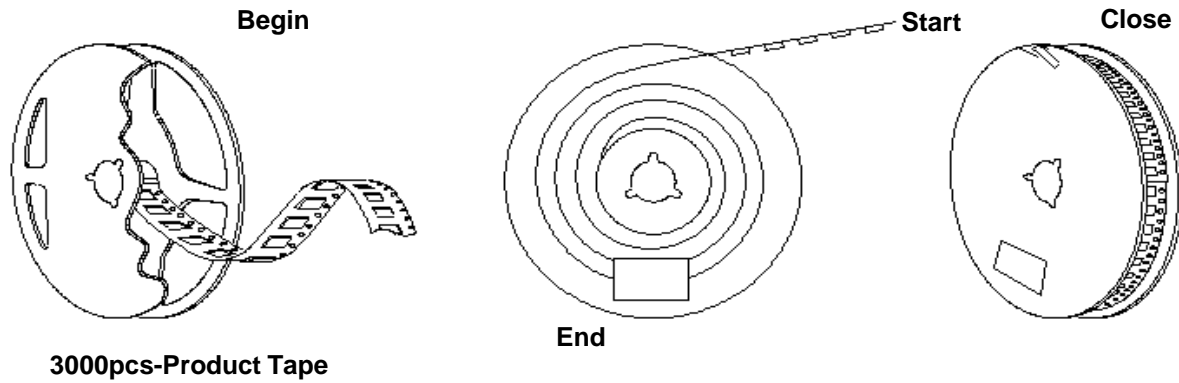
1. 230mm minimum leader which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

# TYPE FJ 2.5x2.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

## FJA000007Q

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### PACKING



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