A Product Line of
Diodes Incorporated

SPECIFICATION FOR APPROVAL

CUSTOMER	
NOMINAL FREQUENCY	125.000000 MHz
HOLDER TYPE	TYPE HX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR
SPEC. NO. (P/N)	HX31C5018Q
CUSTOMER P/N	
ISSUE DATE	July 3, 2018
VERSION	A

APPROVED	PREPARED	QA
Brenda	Nikki Lu	Jenny Yang

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**

VERSION HISTORY

Version No.	Version Date	Description	Notes
A	Jul.3,2018	Initial Release	

TYPE HX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

HX31C5018Q

VER. A 3-Jul-18

ELECTRICAL SPECIFICATIONS

SRe Part Number : HX31C5018Q

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fo	125.000000	MHz	
Frequency Stability	FT	± 50	ppm	**See note
Operating Temperature Range	TR	-40 to +105	°C	
Supply Voltage	V_{DD}	+2.5 ± 5.0%	V	
Logic Type	LT	LVCMOS		
Supply Current, Output Enabled	I_{DD}/OE	15	mA	Max.
Supply Current, Output Disabled	I_{DD}/OD	10	µA	Max.
Duty Cycle (Symmetry)	DC/SY	40 / 60	%	Measured 50% of Waveform
Rise / Fall Time	T_R/T_F	2.5	ns	Max. measured 20/80% of Waveform
Output Voltage "0" Level	V_{OL}	10% V_{DD}	V	Max at I_{OL} = 4.0mA Min.
Output Voltage "1" Level	V_{OH}	90% V_{DD}	V	Min at I_{OH} = -4.0mA Max.
Output Load	CL	15	pF	Max.
Jitter, Phase	RMS	1	ps	Max. 12KHz ~ 20MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	3	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	

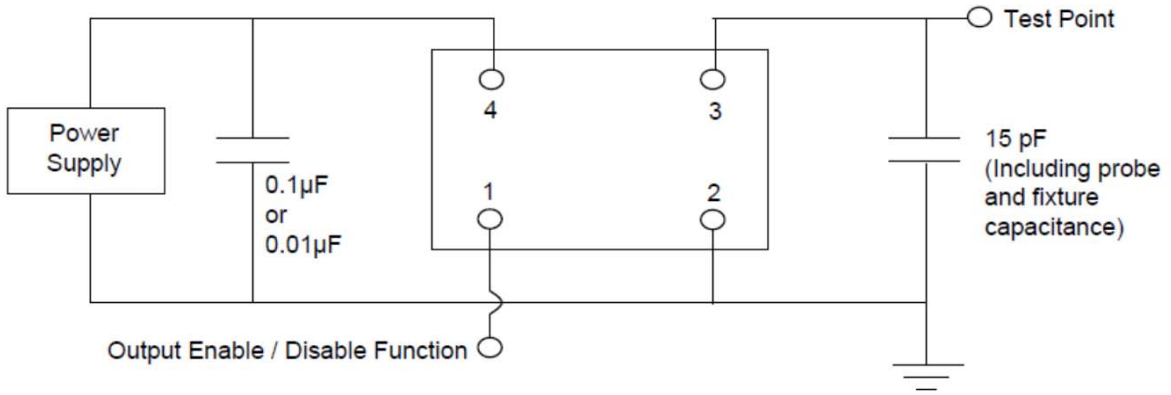
※ This product doesn't include harmful substance that stipulated by SONY SS-00259 Level 1 and S-AT2-001 Level 1 standard. RoHS Compliant (Pb - Free).

****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.**

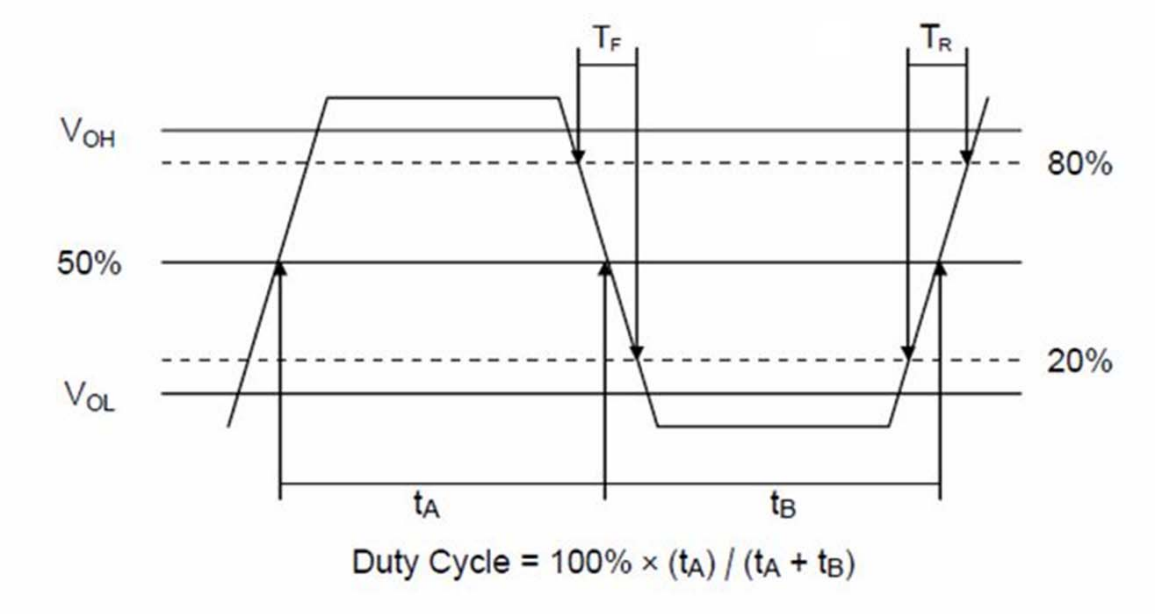
Output Enable / Disable Function

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

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 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

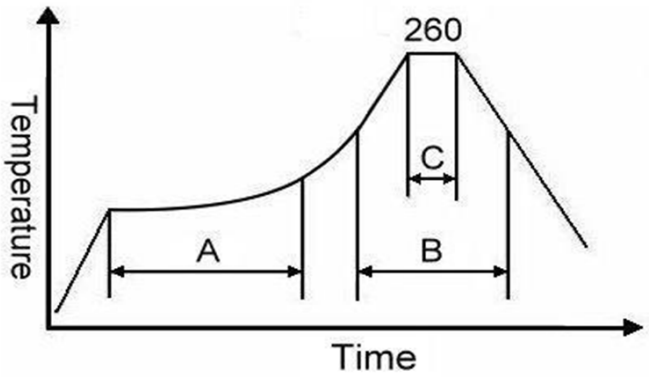
3.4 High Temp Exposure: MIL-STD-202, Method 108

3.5 High Temp & High Humidity: MIL-STD-202, Method 103

3.6 Thermal Shock: MIL-STD-202, Method 107

SUGGESTED IR REFLOW PROFILE

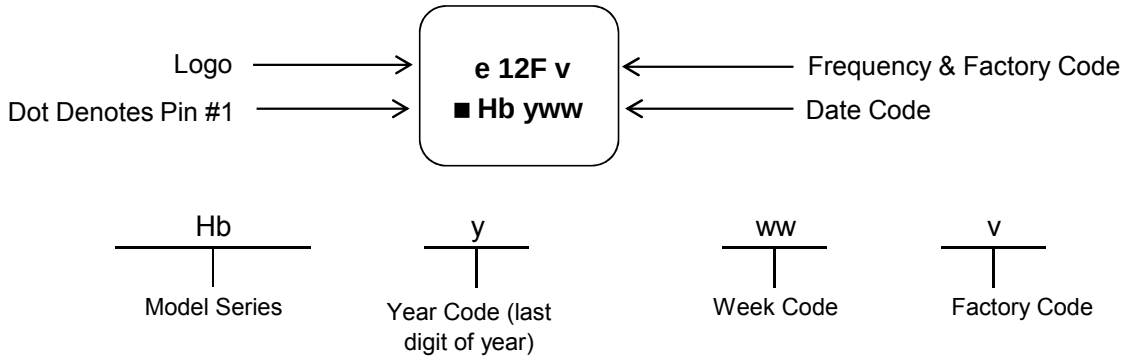
*As per IPC-JEDEC J-STD-020D



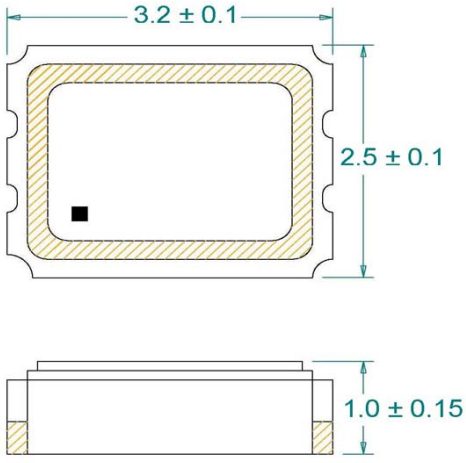
Note:

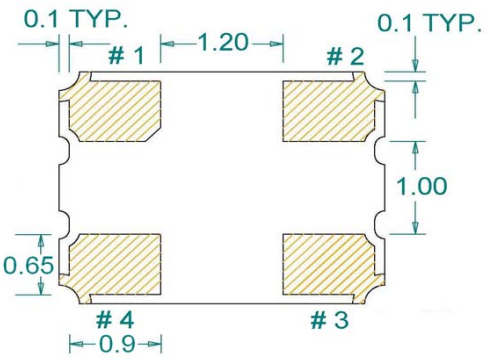
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

MARKING



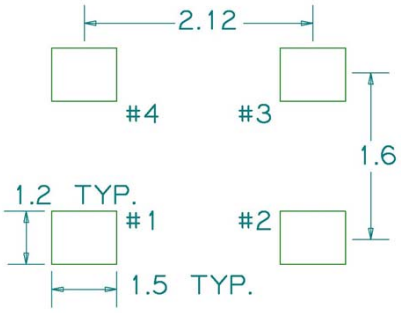
MECHANICAL DRAWINGS (Scale: None. Dimensions are in mm.)





(Bottom View)

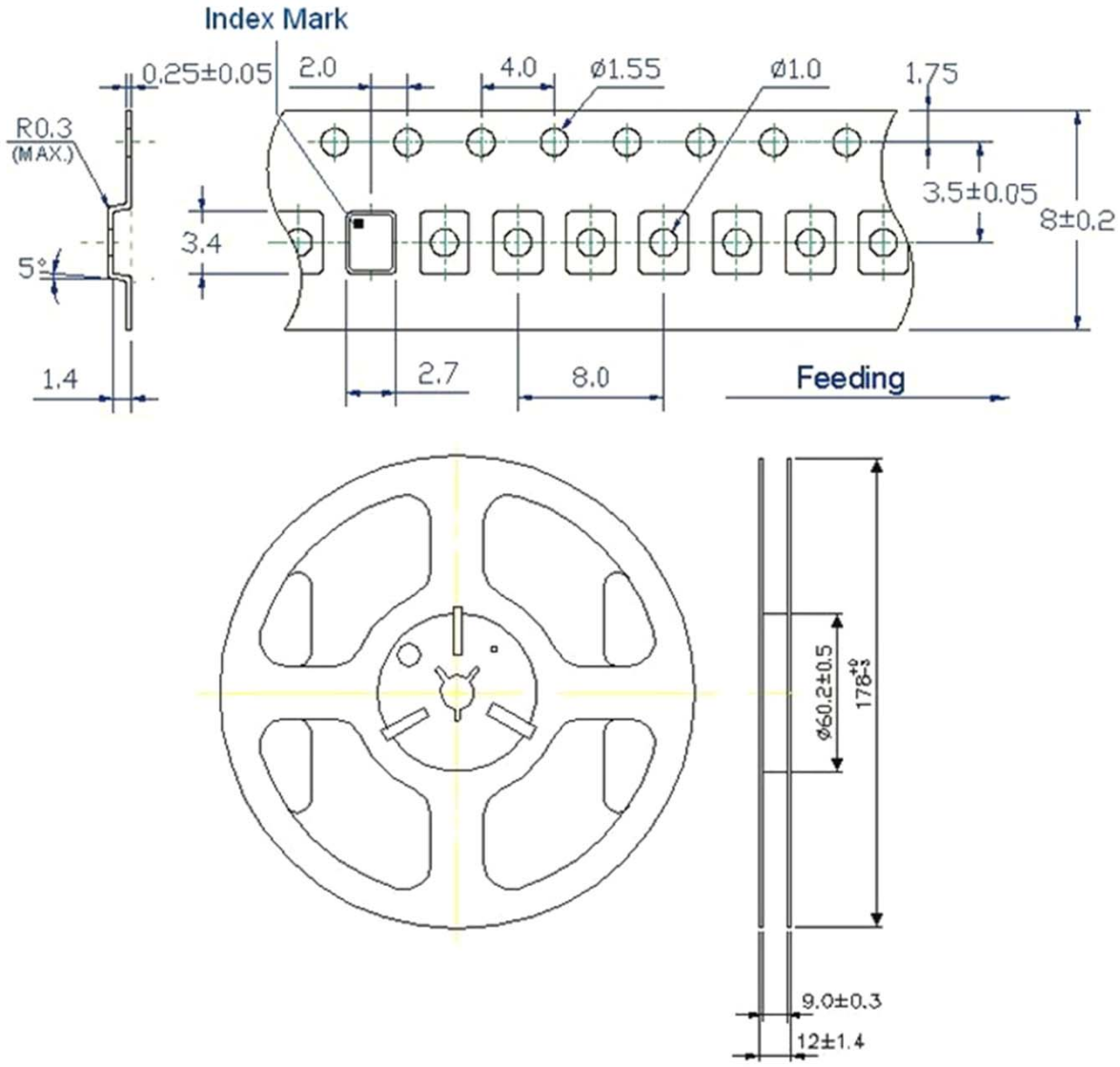
Recommended Land Pattern*



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

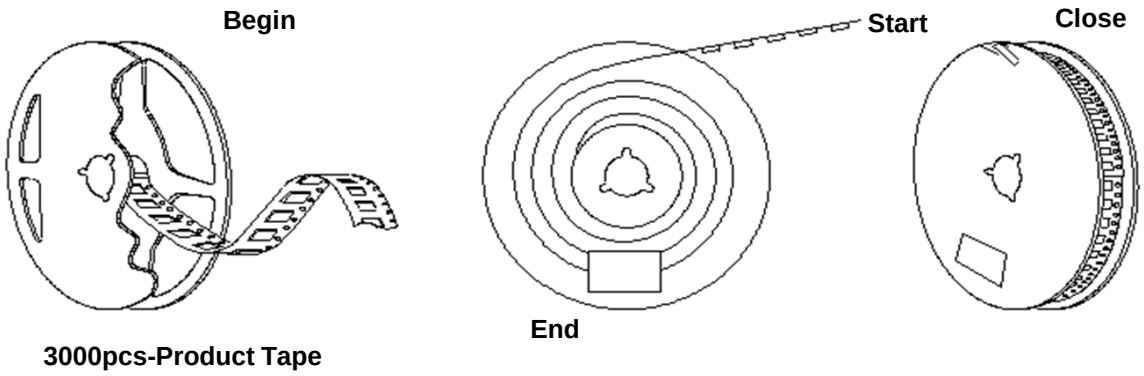
Pin	Function
1	OE
2	Ground
3	Clock Output
4	V_{DD}

TAPE&REEL

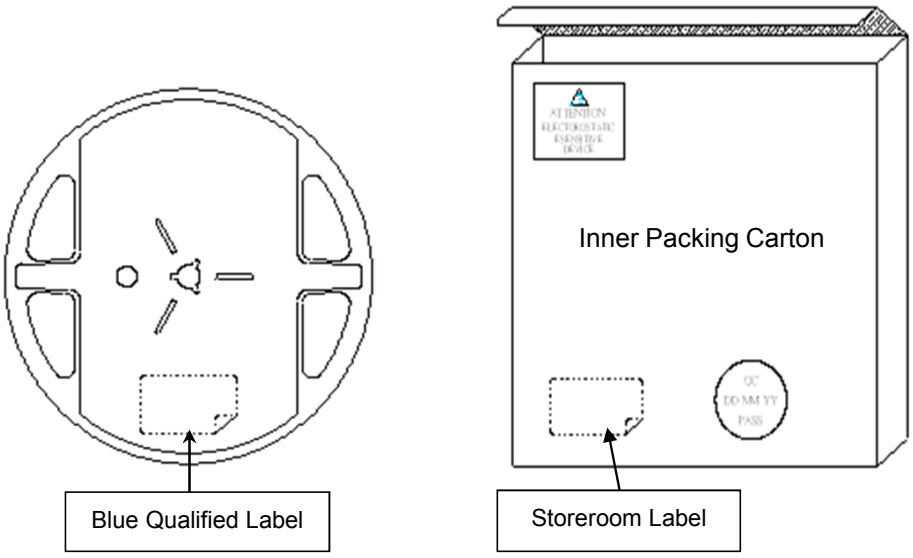


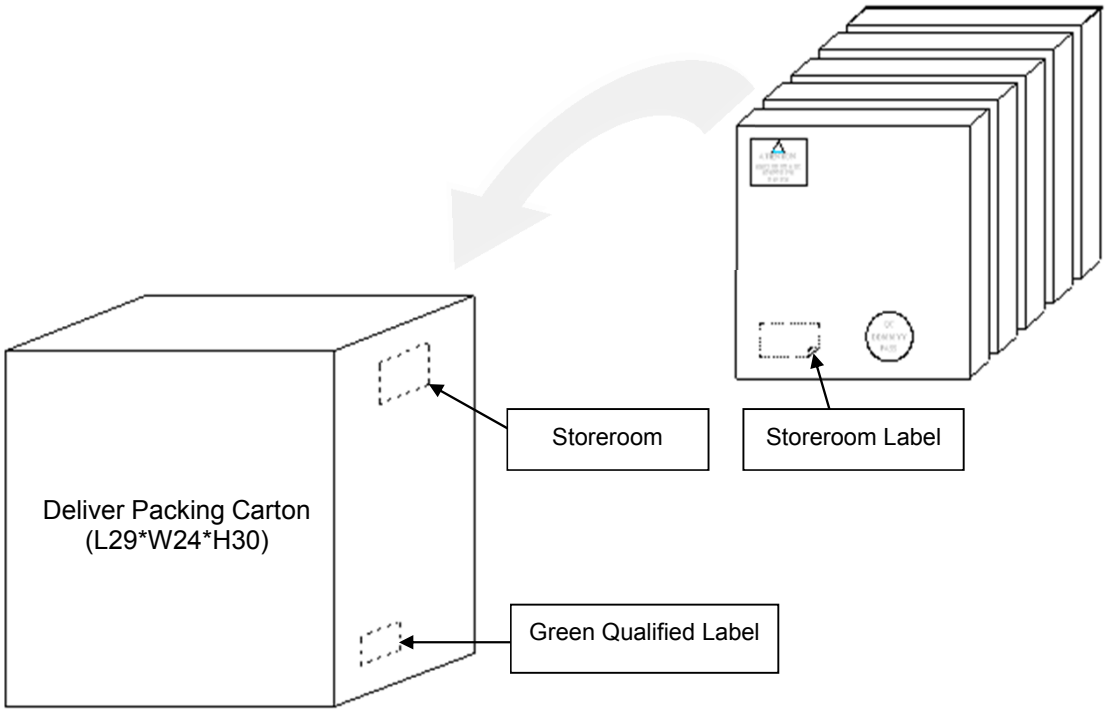
1. 230mm minimum leafer which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

PACKING



3000pcs-Product Tape





单击下面可查看定价，库存，交付和生命周期等信息

>>Diodes Incorporated(达迩科技（美台）)