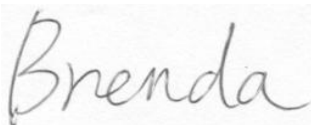

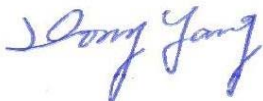

SPECIFICATION FOR APPROVAL

CUSTOMER	
NOMINAL FREQUENCY	100.000000 MHz
HOLDER TYPE	TYPE NX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR
SPEC. NO. (P/N)	NX3241E0100.000000
CUSTOMER P/N	
ISSUE DATE	August 3, 2015
VERSION	B

APPROVED	PREPARED	QA
		
APPROVED BY CUSTOMER :		AVL Status
Please return one copy with approval to PSE-TW		

PSE Technology Corporation

No.2, Tzu-Chiang 5th Rd, Chung Li Industrial Park,
 Chung Li City, Taoyuan County, Taiwan (R.O.C.)
 TEL: 886-3-451-8888
 FAX: 886-3-461-3865
<http://www.saronix-ecera.com.tw>

*Pb-free
 *RoHS Compliant
 *HF-Halogen Free
 *REACH Compliant

*** A company of  **PERICOM Semiconductor Corporation** ***

Pericom Internal Reference NO.NX34A00001

TYPE NX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

NX3241E0100.000000

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VERSION HISTORY

Version No.	Version Date	Customer Receipt Date	Supplier Receipt Date	Description	Notes
A	Apr.21,2015			Initial Release	
B	Aug.3,2015			Modified test circuit	



TYPE NX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

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ELECTRICAL SPECIFICATIONS

SRe Part Number : NX3241E0100.000000

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	F ₀	100.000000	MHz	
Frequency Stability	FT	± 50	ppm	**See note
Operating Temperature Range	TR	-40 to +85	°C	
Supply Voltage	V _{CC}	+3.3 ± 5.0%	V	
Logic Type	LT	HCSL		
Supply Current, Output Enabled	I _{CC/OE}	70	mA	Max.
Supply Current, Output Disabled	I _{CC/OD}	40	mA	Max.
Duty Cycle (Symmetry)	DC/SY	45 / 55	%	Measured 50% of Waveform
Rise / Fall Time	T _R /T _F	700	ps	Max. measured from Vol=0.175V to Voh=0.525V
Output Voltage "0" Level	V _{OL}	-0.150 / 0	V	Min. / Typ.
Output Voltage "1" Level	V _{OH}	0.66 / 0.70 / 0.90	V	Min. / Typ. / Max.
Output Load		Rs=33Ω, Rp=50Ω, CL=2pF		Output requires termination
Output Phase Jitter-PCIe Gen2		2.0 / 3.0	ps RMS	Typ. / Max., As defined by PCI-SIG for PCIe Gen 2.0 reference clock
Output Phase Jitter-PCIe Gen3		0.43 / 1.0	ps RMS	Typ. / Max., As defined by PCI-SIG for PCIe Gen 3.0 reference clock
Jitter, Phase	RMS	0.4 / 0.6	ps	Typ./Max. 12KHz ~ 20MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	6	ps	Max. 20,000 Consecutive Periods
Jitter, Peak to Peak	Pk-Pk	40	ps	Max. 100,000 Random Periods
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

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (Pin1), Output Enable	0.7V _{CC}			V	Or Open
Input Voltage (Pin1), Output Disable (low power standby)			0.3V _{CC}	V	Output is Hi-Z
Output Disable Delay			100	ns	
Output Enable Delay			100	ns	
Start Up Time			10	ms	

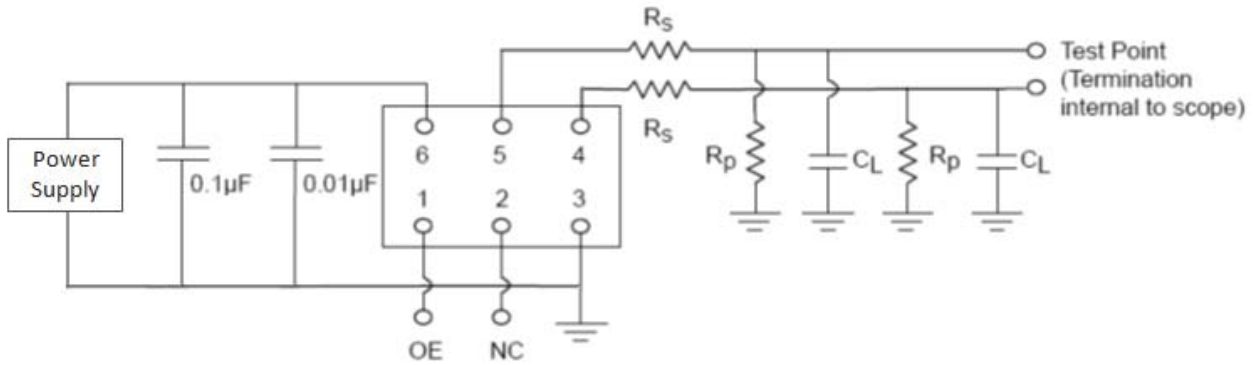
TYPE NX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

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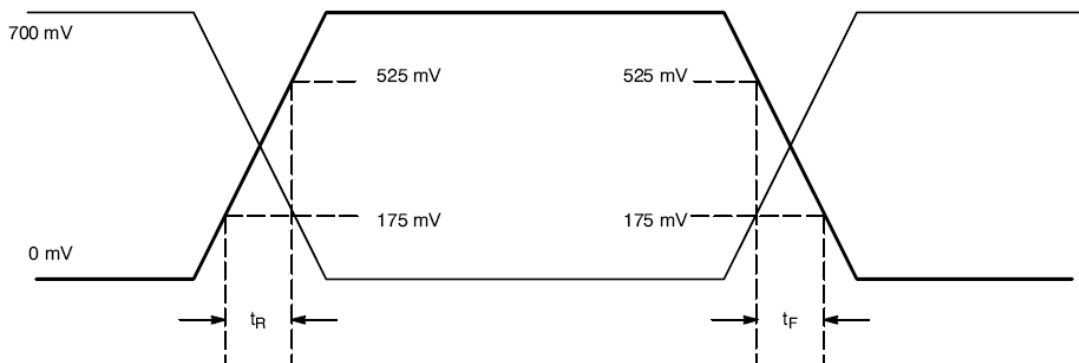
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TEST CIRCUIT



$$R_S = 33\Omega \quad R_P = 50\Omega, \quad C_L = 2\text{pF}$$

OUTPUT WAVEFORM



TYPE NX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

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RELIABILITY SPECIFICATIONS

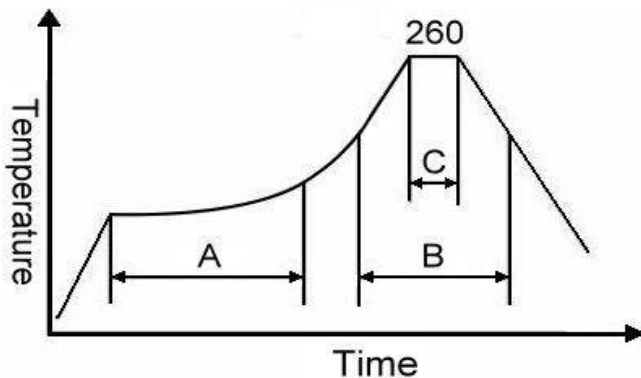
ENVIRONMENTAL:

- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices (except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: RoHS Compliant

MECHANICAL:

- a) SHOCK: MIL-STD-883, Method 2002, Condition B
- b) SOLDERABILITY: JESD22-B102-D Method 2 (Preconditioning E)
- c) TERMINAL STRENGTH: MIL-STD-883, Method 2004, Test Condition D
- d) GROSS LEAK: MIL-STD-883, Method 1014, Condition C
- e) FINE LEAK: MIL-STD-883, Method 1014, Condition A2, $R1=2 \times 10^{-8}$ atm cc/s
- f) SOLVENT RESISTANCE: MIL-STD-202, Method 215

SUGGESTED IR REFLOW PROFILE



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

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

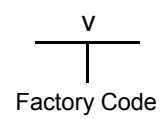
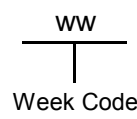
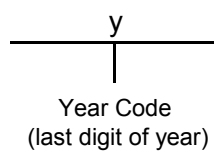
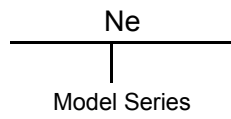
TYPE NX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

NX3241E0100.000000

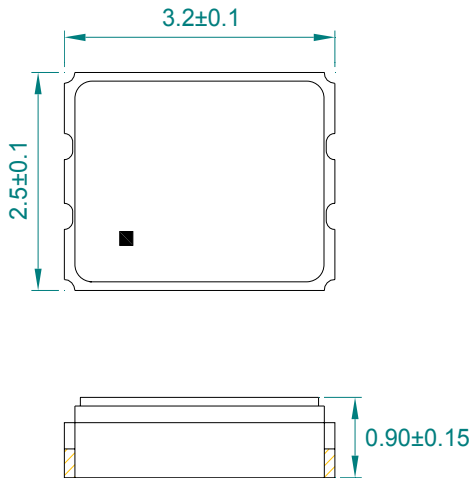
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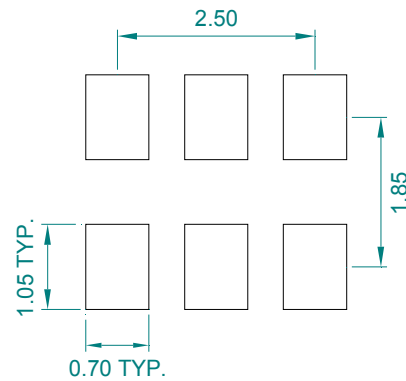
MARKING



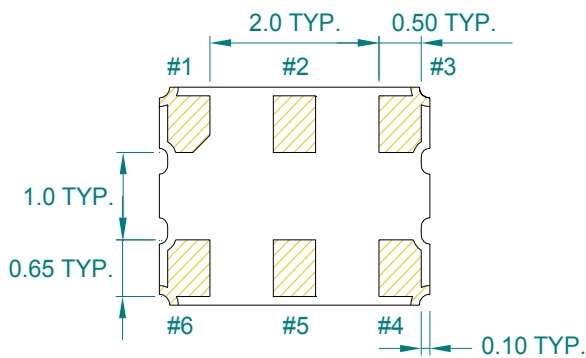
MECHANICAL DRAWINGS (Scale:None. Dimensions are in mm.)



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	NC
3	V _{EE}
4	OUTPUT
5	OUTPUT N
6	V _{CC}

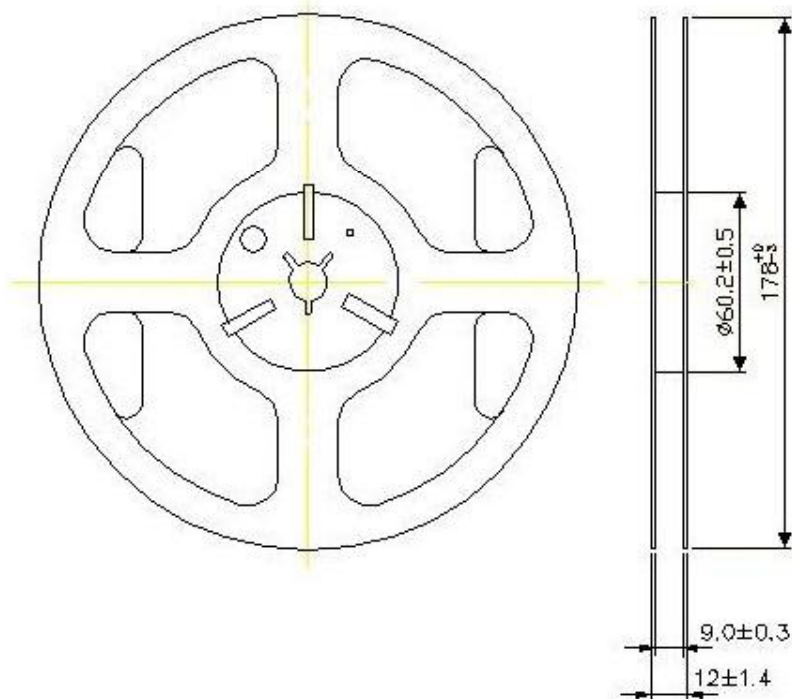
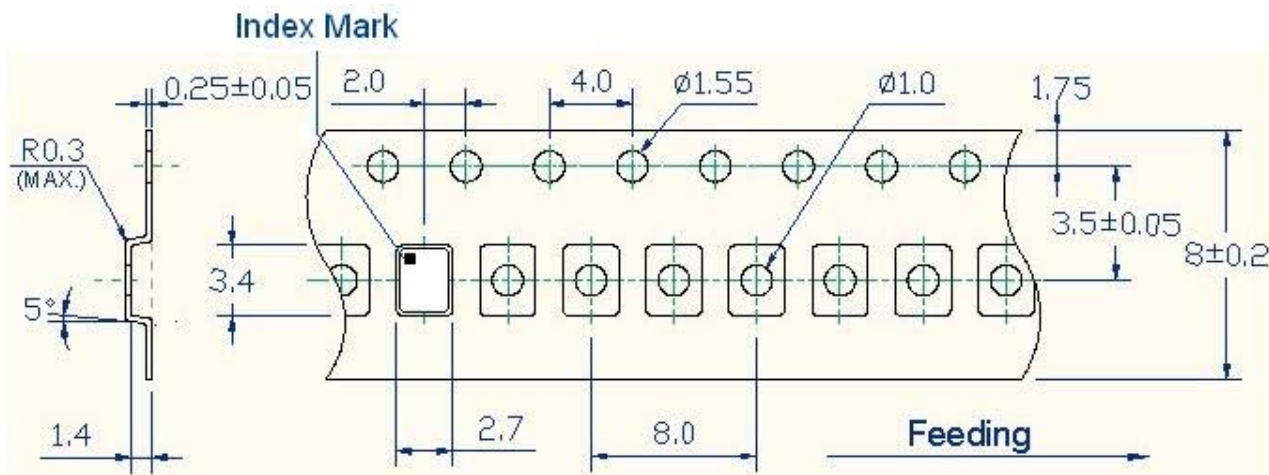
TYPE NX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

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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

