



PSE Technology Corporation

SPECIFICATION FOR APPROVAL

CUSTOMER

NOMINAL FREQUENCY

38.400000 MHz

PRODUCT TYPE

TYPE JL 2.5X2.0 HIGH PRECISION CRYSTAL OSCILLATOR

SPEC. NO. (P/N)

JL2538401Q

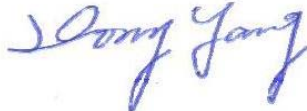
CUSTOMER P/N

ISSUE DATE

July 7, 2015

VERSION

A

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

*AEC-Q200 Compliant

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

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VER. A

7-Jul-15

VERSION HISTORY

[illegible]

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ELECTRICAL SPECIFICATIONS

SRe Part Number : JL2538401Q

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fo	38.400000	MHz	
Operating Temperature Range	TR	-40 to +85	°C	
Storage Temperature Range		-40 to +85	°C	
Supply Voltage	V _{DD}	+1.8 ± 5.0%	V	
Frequency Stability	FT	± 10	ppm	**See note
Aging		±1	ppm	per year at 25°C
Logic Type	LT	Clipped Sinewave		
Supply Current	I _{DD}	2	mA	Max.
Start Up Time v.s Output Level		2	msec	Max, 90% of specified output level
Output Voltage		0.8 to 1.4	Vp-p	
Output Load Resistance		10	KΩ	9KΩ Min / 11KΩ Max
Output Load Capacitance		10	pF	9pF Min / 11pF Max
Phase Noise		-125	dBc/Hz	Max, at 1kHz offset
Phase Noise		-132	dBc/Hz	Max, at 10kHz offset
Phase Noise		-137	dBc/Hz	Max, at 100kHz offset

※ 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), Shock and Vibration.

Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (Pin1), Output Enable	0.8V _{DD}			V	Or Open
Input Voltage (Pin1), Output Disable (low power standby)			0.2V _{DD}	V	Output is Hi-Z

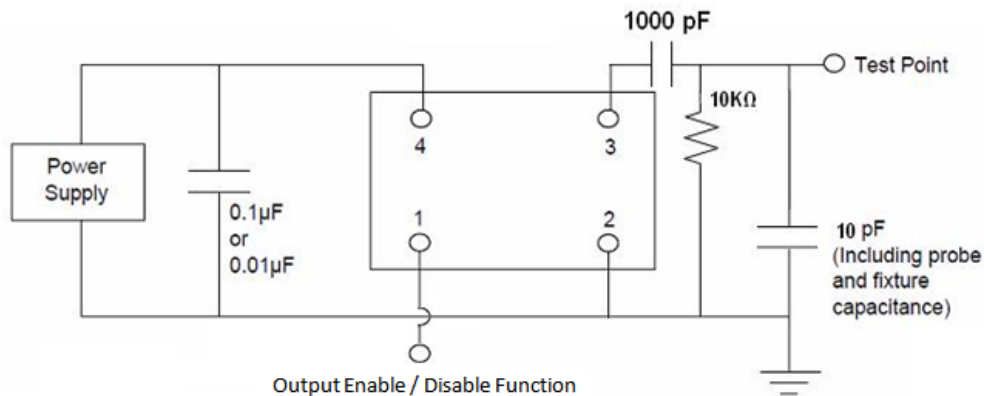
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TEST CIRCUIT



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

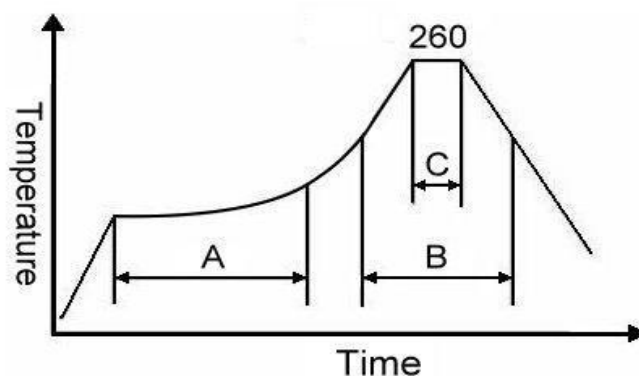
- 2.1 Mechanical Shock: MIL-STD-202 Method 213
- 2.2 Vibration: MIL-STD-202 Method 204
- 2.3 Solderability: J-STD-020
- 2.4 Board Flex: AEC Q200-005
- 2.5 Terminal Strength (SMD): AEC Q200-006

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: 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

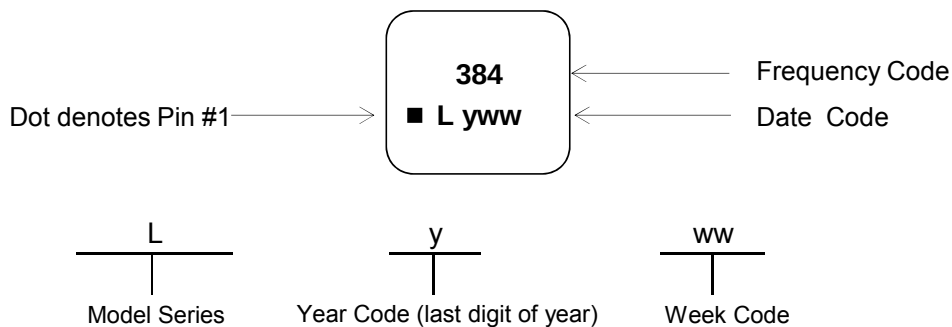
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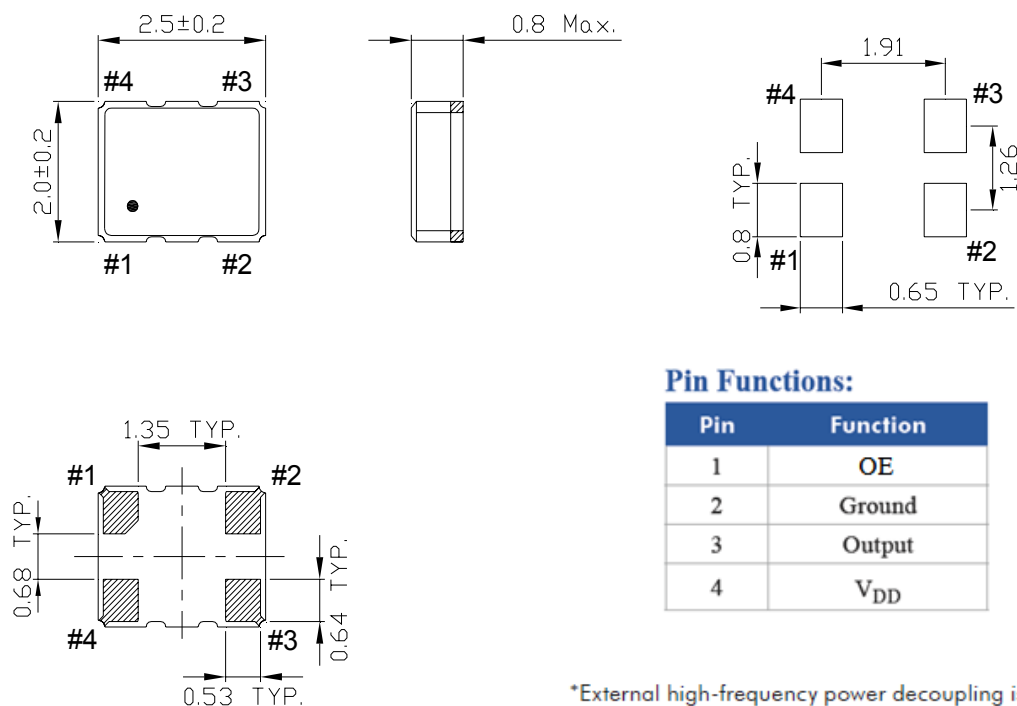
MARKING



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

Recommended Land Pattern

(TOP VIEW)



Pin Functions:

Pin	Function
1	OE
2	Ground
3	Output
4	V _{DD}

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

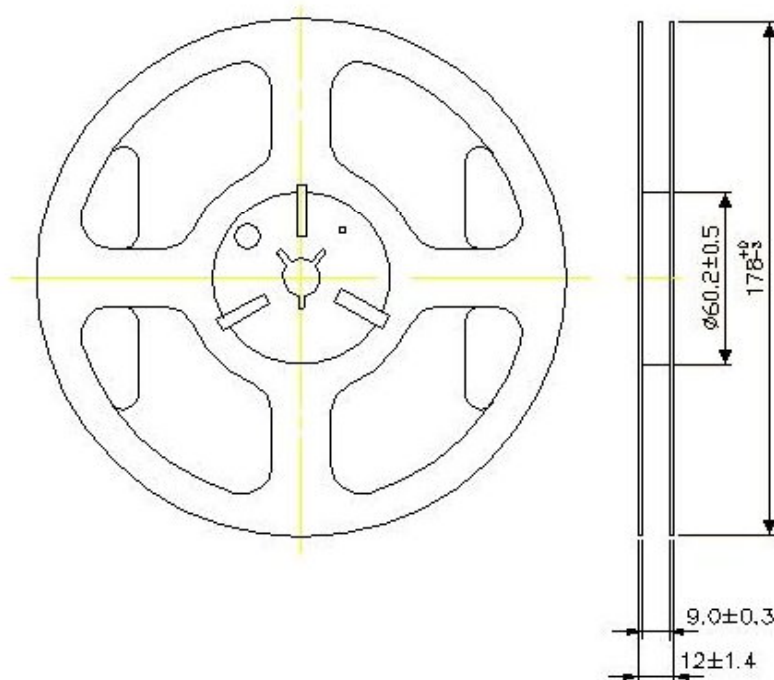
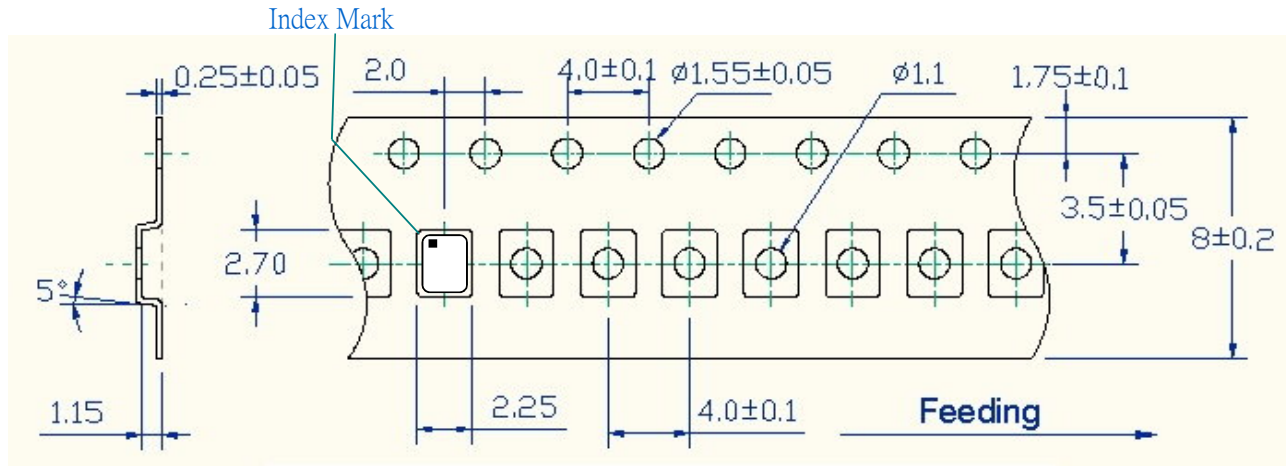
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TAPE&REEL



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

