



A Product Line of
Diodes Incorporated



SPECIFICATION FOR APPROVAL

CUSTOMER _____

NOMINAL FREQUENCY _____ 25.000000 MHz _____

PRODUCT TYPE _____ TYPE WL 2.5X2.0 HIGH PRECISION CRYSTAL OSCILLATOR _____

SPEC. NO. (P/N) _____ WL2125004Q _____

CUSTOMER P/N _____

ISSUE DATE _____ August 26, 2018 _____

VERSION _____ B _____

APPROVED	PREPARED	QA

Diodes Incorporated

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

TYPE WL 2.5X2.0 HIGH PRECISION CRYSTAL OSCILLATOR

WL2125004Q

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ELECTRICAL SPECIFICATIONS

SRe Part Number : WL2125004Q

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	F _o	25.000000	MHz	
Operating Temperature Range	TR	-40 to +85	°C	
Supply Voltage	V _{DD}	+1.8 ± 5.0%	V	
Frequency Stability	FT	± 15	ppm	**See note
Logic Type	LT	LVC MOS		
Supply Current	I _{DD}	3	mA	Max.
Output Logic "0" Level	V _{OL}	0.4	V	Max.
Output Logic "1" Level	V _{OH}	V _{DD} -0.4	V	Min.
Output Load		15	pF	
Duty Cycle	DC	45 / 55	%	Measured 50% V _{DD}
Rise / Fall Time	T _R /T _F	5	ns	Max. measured 20/80% of Waveform
Jitter, Phase	RMS	1	ps	Max. 12KHz ~ 5MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	4	ps	Max. 20,000 Consecutive Periods
Jitter, Peak to Peak	Pk-Pk	40	ps	Max. 100,000 Random Periods
Start Up Time		2	ms	Max.
Storage Temperature Range		-40 to +85	°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	
Input Voltage (Pin1), Output Disable (low power standby)			0.3V _{DD}	V	Output is Hi-Z

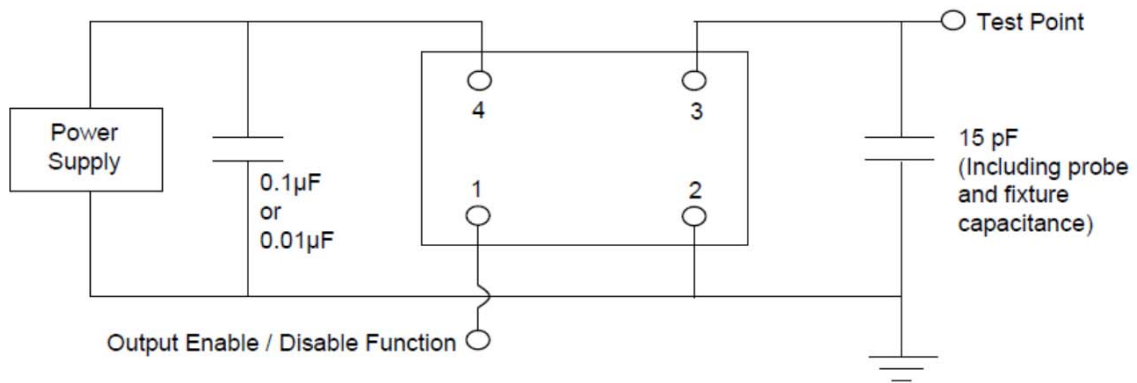


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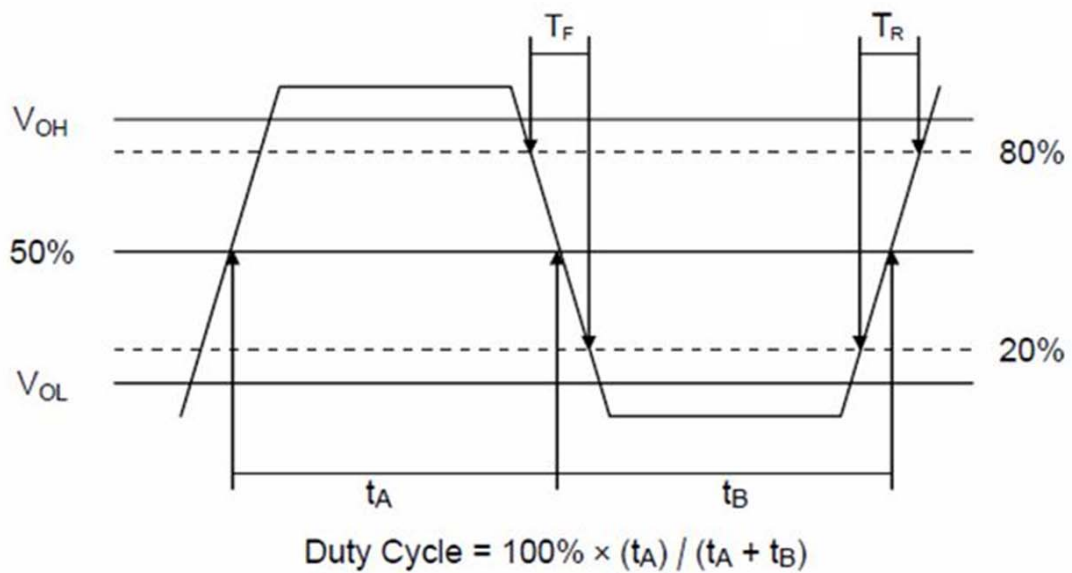
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TEST CIRCUIT



OUTPUT WAVEFORM



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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

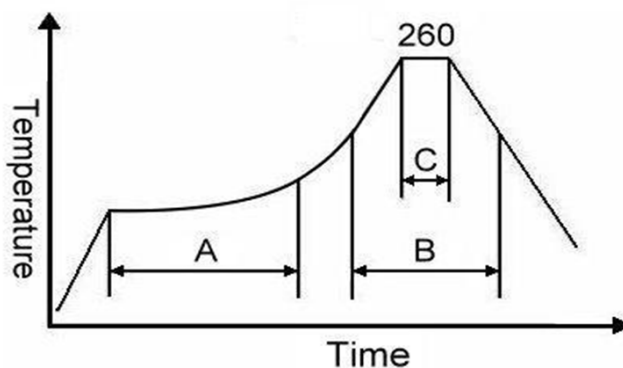
- 2.1 Mechanical Shock: MIL-STD-202 Method 213
- 2.2 Vibration: MIL-STD-202 Method 204
- 2.3 Solderability: J-STD-002
- 2.4 Board Flex: AEC Q200-005
- 2.5 Terminal Strength (SMD): AEC Q200-006

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

DIODES
INCORPORATED

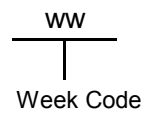
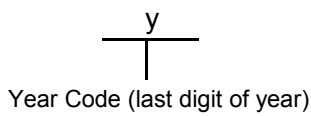
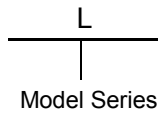
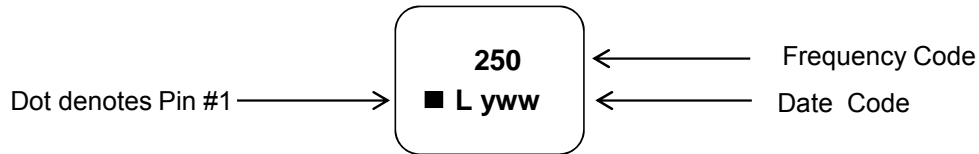
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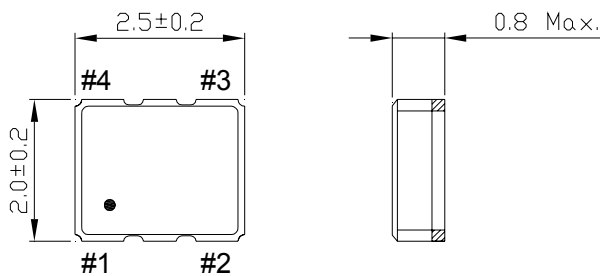
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MARKING

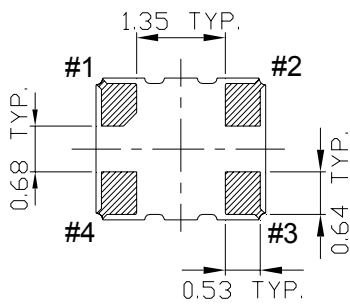
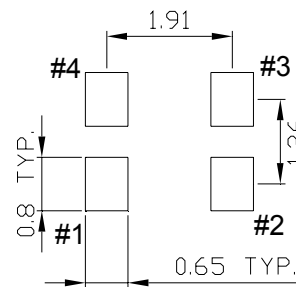


MECHANICAL DRAWINGS (Scale: None. Dimensions are in mm.)



Recommended Land Pattern

(TOP VIEW)



Pin Functions:

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

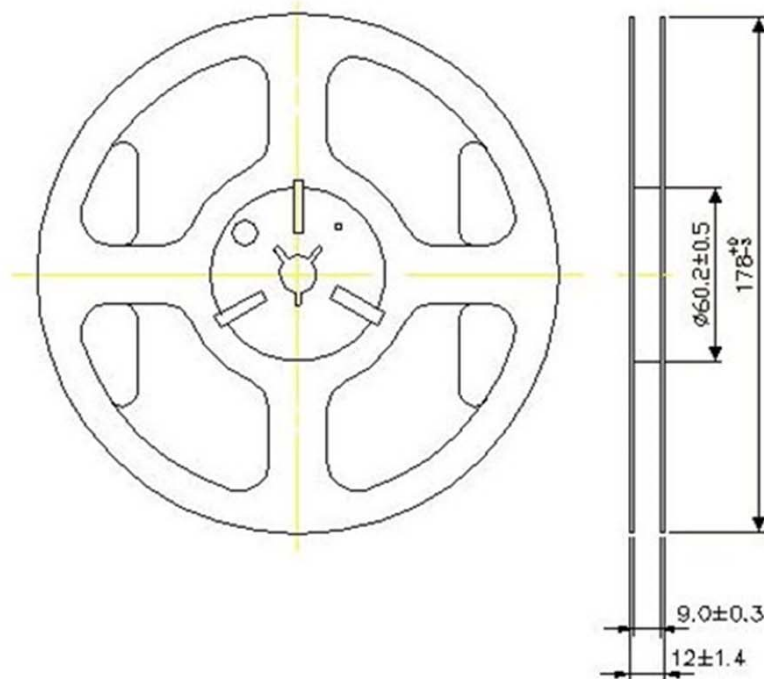
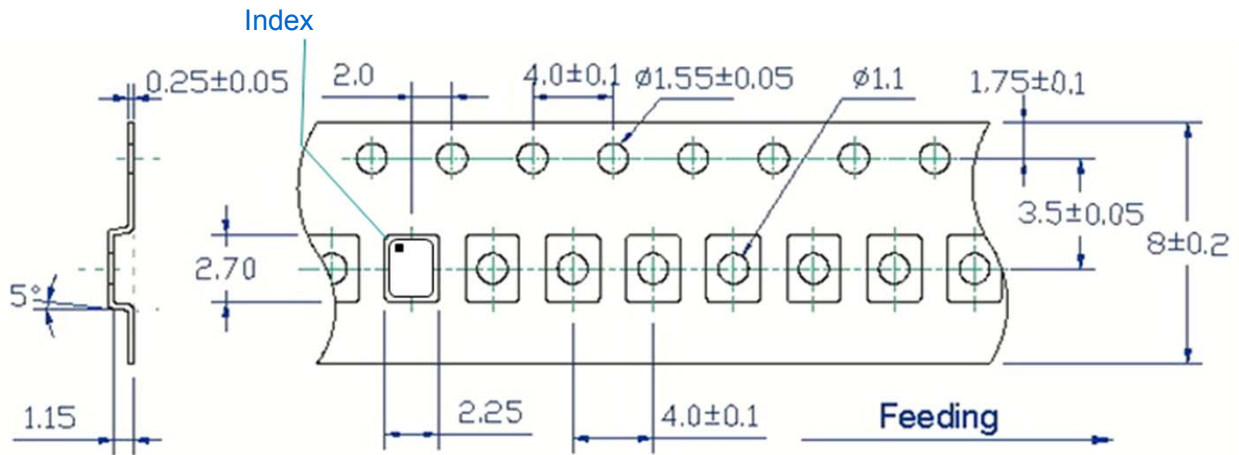
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TAPE&REEL



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

