



A Product Line of  
Diodes Incorporated



## SPECIFICATION FOR APPROVAL

CUSTOMER	_____
NOMINAL FREQUENCY	25.000000 MHz
PRODUCT TYPE	TYPE JT 3.2X2.5 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR
SPEC. NO. ( P/N )	JT35250003
CUSTOMER P/N	_____
ISSUE DATE	April 21, 2020
VERSION	A

APPROVED	PREPARED	QA

### Diodes Incorporated

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

**TYPE JT 3.2X2.5 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR**

***JT35250003***

VER. A      21-Apr-20

**VERSION HISTORY**

Version No.	Version Date	Description	Notes
A	Apr.21,2020	Initial Release	



# TYPE JT 3.2X2.5 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

## JT35250003

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### ELECTRICAL SPECIFICATIONS

SRe Part Number : JT35250003

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	F <sub>o</sub>	25.000000	MHz	
Operating Temperature Range	TR	-40 to +85	°C	
Storage Temperature Range		-40 to +85	°C	
Supply Voltage	V <sub>DD</sub>	+3.3 ± 5.0%	V	
Frequency Stability	FT	± 0.5	ppm	vs. Temperature (Refer to the mid-point between minimum and maximum frequency values over the specified temperature range)
Frequency Stability		± 0.2	ppm	vs. Load varied 10pF//10kΩ±10%
Frequency Stability		± 0.1	ppm	vs. Supply Voltage varied V <sub>dd</sub> ±5% at 25°C
Frequency Tolerance		± 2.0	ppm	Max. After 2 times reflow (Refer to nominal frequency)
Static Temperature Hysteresis		± 0.6	ppm	Max.
Aging		±1	ppm	Max, 1st year at 25°C
Logic Type	LT	Clipped Sinewave		
Supply Current	I <sub>DD</sub>	1.5	mA	Max. **See Note
Start Up Time v.s Output Level		2.0	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
Harmonics		-8	dBc	Max.
Phase Noise		-135	dBc/Hz	Typ., at 1kHz 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).

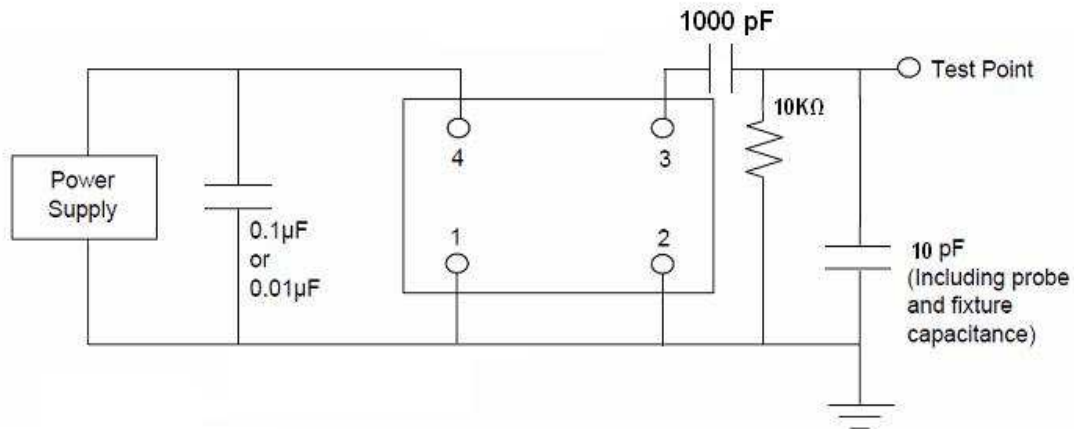
\*\* Note: This is the static current and there is a transient current of 5mA max while V<sub>DD</sub> startup.

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## TEST CIRCUIT



## RELIABILITY SPECIFICATIONS

### 1. Initial

- 1.1 Physical Dimensions: Mil Std 883 M2016
- 1.2 Gross/Fine Leak: JESD22-A109, Mil Std 883 M1014
- 1.3 Electrical Characterization: Per Specification/Datasheet
- 1.4 Electrical Test: Per Specification/Datasheet

### 2. Mechanical

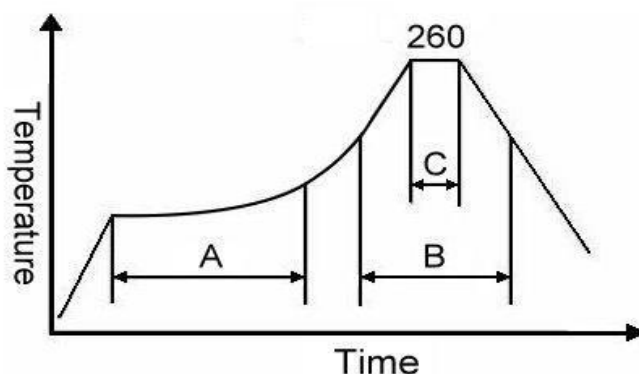
- 2.1 Mechanical Shock: JESD22-B104
- 2.2 Vibration Variable Frequency: JESD22-B103
- 2.3 Solderability: JESD22-B102-D

### 3.Environmental

- 3.1 Highly Accelerated Stress Testing: JESD22-A110/A118
- 3.2 Temp Cycle: JESD22-A104
- 3.3 Resistance to Solder Heat: J-STD-020C
- 3.4 Low Temperature Storage: JESD22-A108
- 3.5 High Temperature Storage Life / Bake: JESD22-A103
- 3.6 Temperature Bias and Operating Life: JESD22-A108
- 3.7 ESD Testing: JESD22-A114/A115/C101
- 3.8 Latch Up test: JESD78

## SUGGESTED IR REFLOW PROFILE

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



Note:

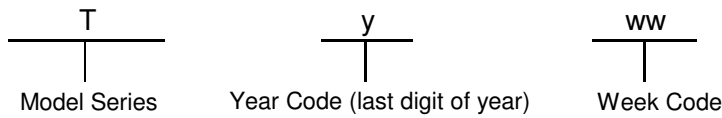
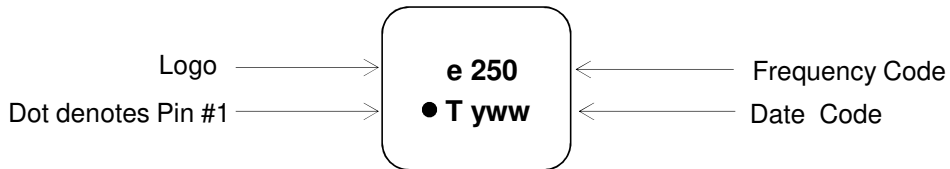
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

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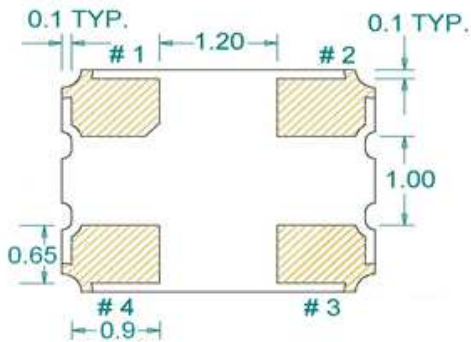
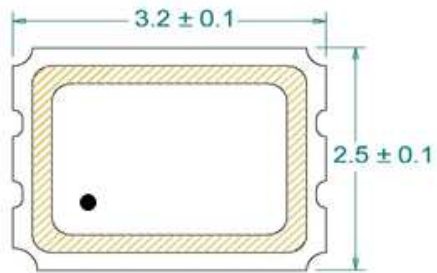
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### MARKING

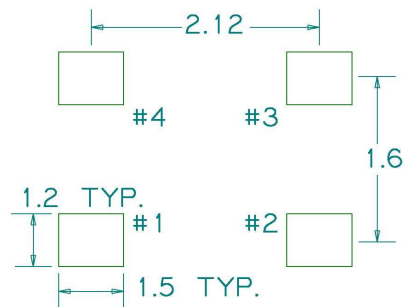


### MECHANICAL DRAWINGS ( Scale: None. Dimensions are in mm.)



(Bottom View)

#### Recommended Land Pattern\*



#### Pin Functions:

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

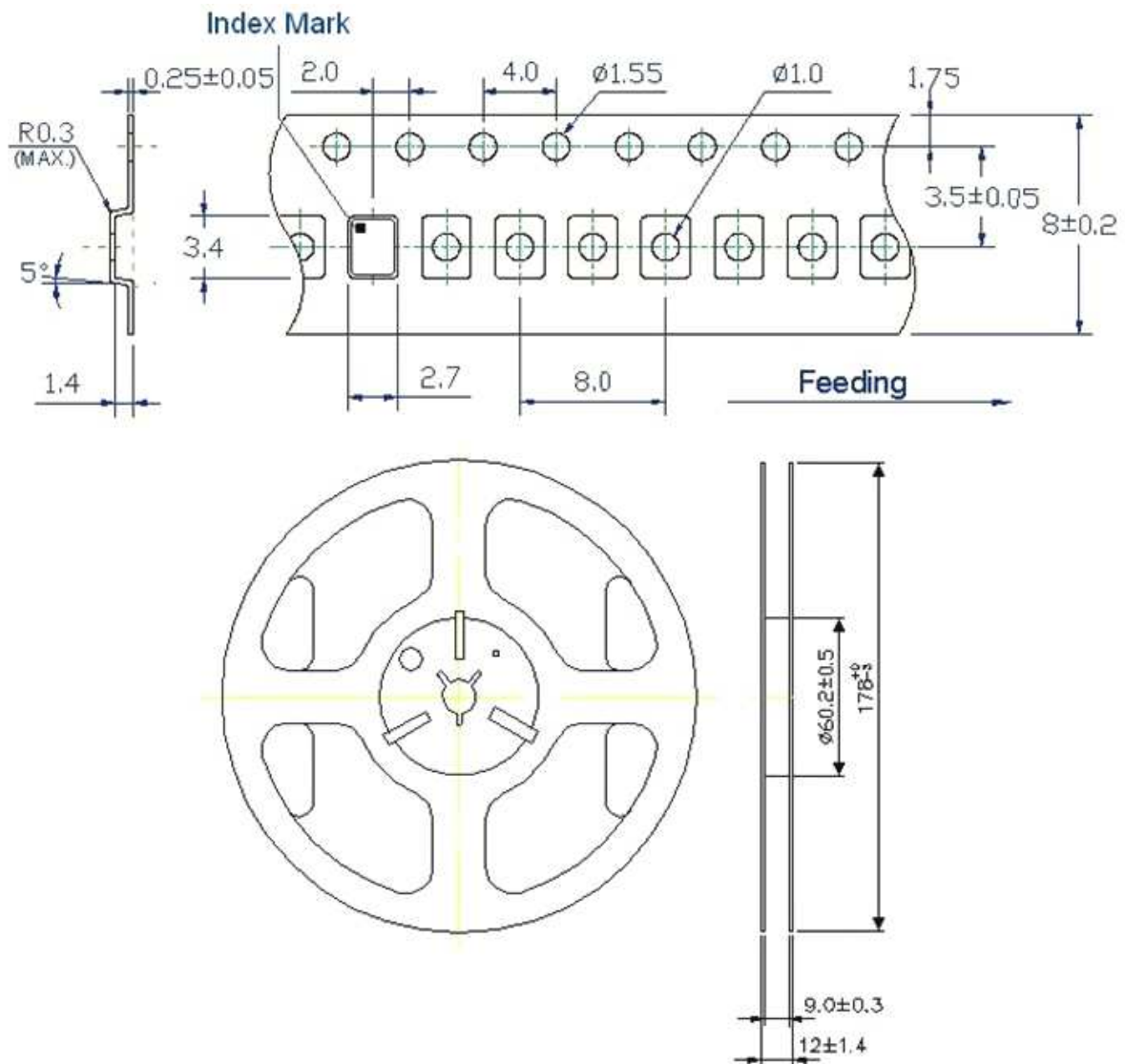
\* NOTE  
#1 pad. Must be connected to ground on your circuit, otherwise oscillation frequency will shift from the output frequency specified.

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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

