

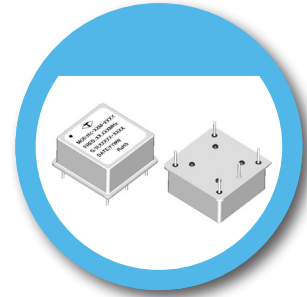
# NA Type 25.4 x 25.4 mm Oven Controlled Crystal Oscillator

## FEATURE

- Dimension 25.4 x 25.4 x 12.7 mm typical.
- SC Cut Crystal.

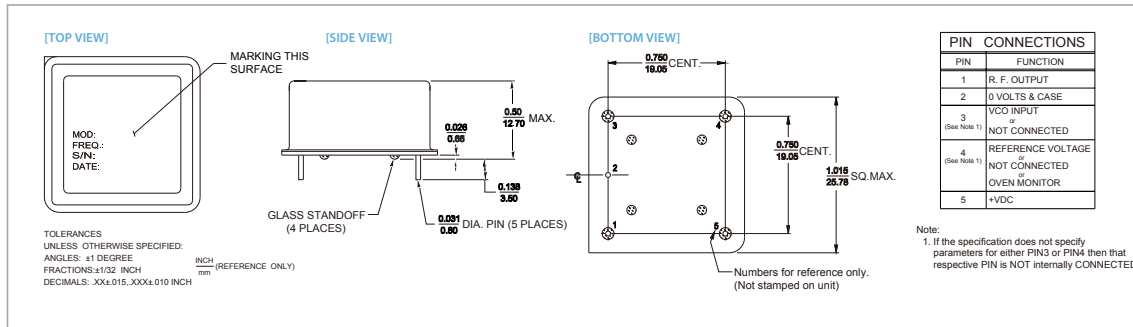
## APPLICATION

- SDH/SONET, Telecommunication base station
- Test and measurement equipment
- Synthesizer, Digital switch, Reference Timing Circuit



**RoHS Compliant**

## DIMENSION



## ELECTRICAL SPECIFICATION

| Parameter                              | Min.            | Typ.  | Max.        | Unit  | Test Condition & Notes |  |
|--|-----------------|-------|-------------|-------|------------------------|--|
| <b>Output</b>                          | Frequency       | —     | 10          | —     | MHz                    | Available frequency range is from 5Hz to 40MHz. Standard frequencies are 10, 12.8, 13, 15, 36, 19.2, 20, 25, 38.88MHz. |
|  | Waveform        | —     | Rectangular | —     |                        | Since wave output is available. Consult factory for more information.  |
|  | Level           | —     | LVTTTL      | —     |                        |  |
|  | "1" Level       | 2.4   | —           | —     | V                      |  |
|  | "0" Level       | —     | —           | 0.4   |                        |  |
|  | Load            | —     | 15          | —     | pF                     |  |
|  | Duty cycle      | 45    | 50          | 55    | %                      | @ +1.4 V   |
| <b>Frequency Stability</b>             | Spurious        | —     | —           | -60   | dBc                    |  |
|  | Ambient         | -10   | —           | +10   | ppb                    | -30°C to +70°C, referenced to +25°C<br>Refer to Freq. Stability Vs Temp. Range table.                                  |
| Aging                                  | Daily           | -0.5  | —           | +0.5  | ppb                    | after 30 days  |
|  | Yearly          | -50   | —           | +50   |                        |  |
|  | 10 years        | -0.3  | —           | +0.3  |                        | ppm  |
|  | Voltage         | -5.0  | —           | +5.0  | ppb                    | ±5% hange  |
|  | Warm-up         | -10   | —           | +10   |                        | In 10 minutes @ +25°C, referenced to 1 hour  |
| Phase Noise                            |                 | —     | —           | -120  | dBc/Hz                 | @ 10 Hz  |
|  |                 | —     | —           | -135  |                        | @ 100 Hz   |
|  |                 | —     | —           | -145  |                        | @ 1 kHz  |
|  |                 | —     | —           | -150  |                        | @ 10 kHz   |
| <b>Electrical Frequency Adjustment</b> | Range           | —     | —           | -0.5  | ppm                    | VCO @ 0 V  |
|  | Control         | +0.5  | —           | —     |                        | VCO @ +3.3 V   |
|  | Slope           | —     | 1.65        | 3.3   | V                      |  |
|  | Input impedance | —     | Positive    | —     |                        |  |
|  | Input Power     | 100   | —           | —     | kΩ                     |  |
| Voltage                                |                 | 3.135 | 3.3         | 3.465 | V                      | 5.0V input voltage is available. Consult factory for control voltage and output level.                                 |
|  | Current         | —     | —           | 1000  | mA                     | @ turn on  |
|  | Steady state    | —     | —           | 1.3   | W                      | @ +25°C  |

## FREQ. STABILITY vs. TEMP. RANGE

| Temp. (°C) | ppb |    |     |
|------------|-----|----|-----|
|            | ±3  | ±5 | ±10 |
| 0 ~ +70    | ○   | ○  | ○   |
| -30 ~ +70  | △   | ○  | ○   |
| -40 ~ +85  | △   | ○  | ○   |

\* ○: Available △: Conditional X: Not available

**Note: not all combination of options are available. Other specifications may be available upon request.**