

## Product Description

|                 |                                     |
|-----------------|-------------------------------------|
| Description:    | 148.50MHz GXO-L31L/BI SM Oscillator |
| Product family: | GXO-L31                             |
| Category:       | SM Oscillator                       |
| Order code:     | MP08704                             |

## Features

- ▶ Ceramic body with gold-plated pads
- ▶ Metal lid, seam sealed

## Additional Information

For further information regarding packaging, construction, material composition, soldering profile and environment, please refer to **GXO-L31 Product Information sheet**

For dimensions, refer to package drawing: **D0344-A**

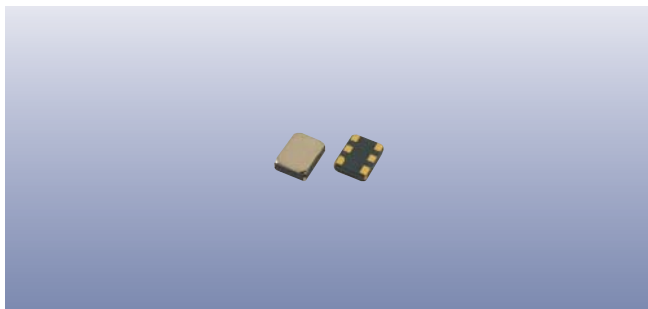
## Electrical Specifications

| Parameter                    | Value               | Notes  |
|------------------------------|---------------------|--|
| Nominal frequency:           | 148.50MHz           |  |
| Frequency stability:         | ±50ppm              | Frequency stability is inclusive of calibration @25°C, operating temperature range, supply voltage change & load change. |
| Operating temperature range: | -40 to +85°C        |  |
| Storage temperature range:   | -40 to +85°C        |  |
| Supply voltage ( $V_{DD}$ ): | +3.3V               | ±5%  |
| Supply current:              | 20mA max            |  |
| Output:                      | LVDS                |  |
| Offset voltage:              | 1.25V typ           |  |
| Differential output voltage: | 0.247 ~ 0.454V      | 0.33V typ  |
| Output load:                 | 100Ω                |  |
| Waveform symmetry:           | 45:55% max          | @50% Vp-p  |
| Rise / fall time:            | 0.4nS max           | 20 ~ 80%V <sub>p-p</sub>   |
| Enable / disable:            | Tristate            | Control via pad 1  |
| Phase jitter RMS:            | 1ps max (0.3ps typ) | 12kHz~20MHz  |

## Enable / Disable Function

| Input (pad 1*)                 | Output 1 (pad 4) | Output 2 (pad 5) |
|--------------------------------|------------------|------------------|
| Open                           | Enabled          | Enabled          |
| '1' level ( $\geq 0.7V_{DD}$ ) | Enabled          | Enabled          |
| '0' level ( $\leq 0.3V_{DD}$ ) | High Impedance   | High Impedance   |

\* Enable / disable function can be on pad 2 on request.



## Packaging & Handling

Production quantities supplied on T&R, 2k pcs per reel.  
Small quantities may be supplied on tape (no reel), or in bulk.



♦ Static sensitive product. Observe proper handling precautions

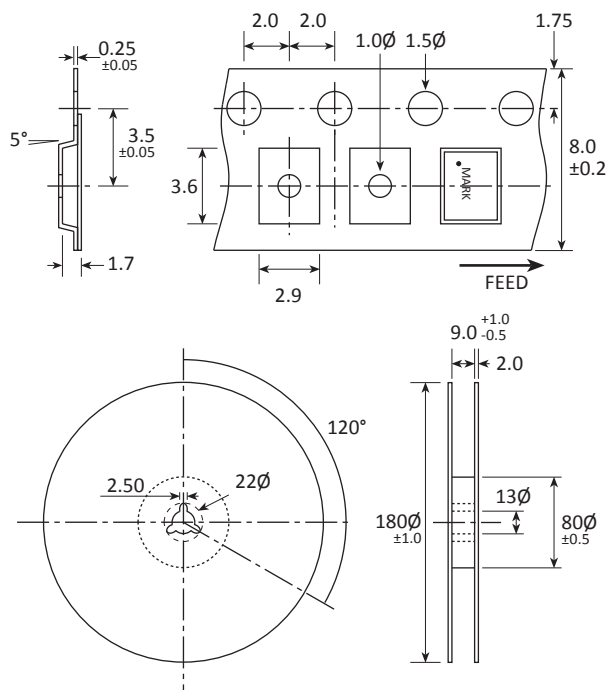
## Marking

FREQUENCY DC  
• PARTNO

• Pin 1  
Marking type: Laser  
DC = Date code in YM, eg "DE" = May 2014

|   | A   | B   | C   | D   | E   | F   | G   | H   | J   | K   | L   | M   |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Y | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 0   |     |     |
| M | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |

## Tape & Reel Specification



Not to scale. Dimensions in mm. Tolerances ±0.1mm unless otherwise stated.

## Construction

- ▮ Ceramic body with gold-plated pads
- ▮ Metal lid, seam sealed

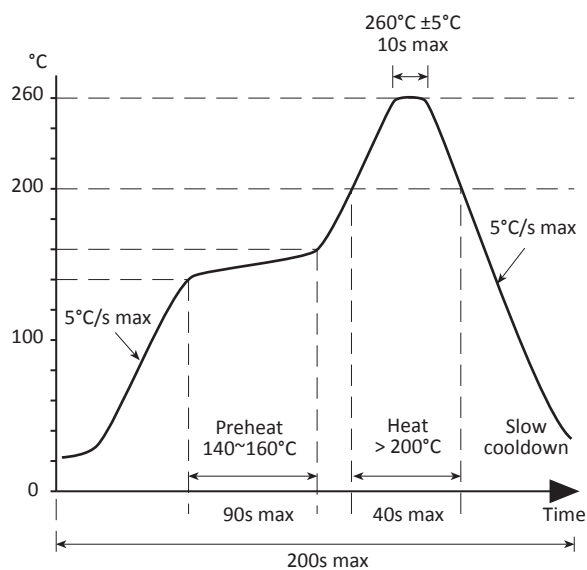
## Composition

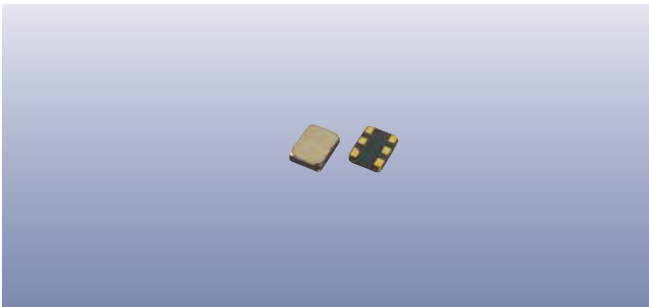




This product is lead-free, and is fully compliant with current RoHS directives



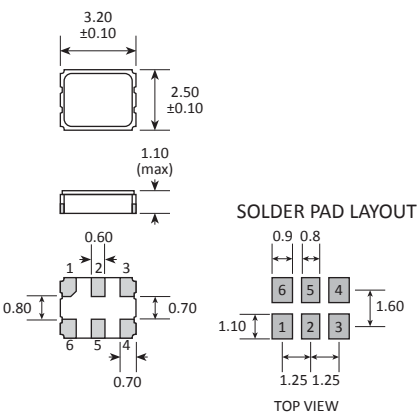
## Soldering Profile





| Product Family   |
|--|
| GXO-E31, GXO-L31   |
| Construction   |
|  Ceramic body with gold-plated pads |
|  Metal lid, seam sealed             |

Dimensions (mm)



| PAD | CONNECTION             |
|-----|------------------------|
| 1   | Enable / disable       |
| 2   | Not connected          |
| 3   | Ground                 |
| 4   | Output 1 (Q)           |
| 5   | Output 2 ( $\bar{Q}$ ) |
| 6   | Supply                 |