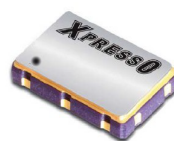


### Features

- Extremely low jitter
- Low cost
- Express delivery
- Stability from  $\pm 20$ ppm, -40 to +85°C
- RoHS compliant
- Serial ID with comprehensive traceability



### Description

The XPRESSO range of fully configurable oscillators utilizes a family of proprietary ASICs developed for noise reduction to provide oscillators with noise levels comparable to traditional bulk-produced quartz and SAW-based oscillators.

XPRESSO oscillators are low-cost, low-noise, with a wide frequency range, excellent ambient performance and available on very short leadtimes. All XPRESSO oscillators are 100% final tested.

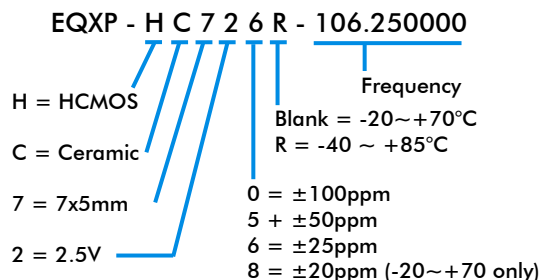
### Typical applications

- Any application requiring an oscillator.
- SONET
- Ethernet
- Storage Area Networks
- Broadband Access
- Microprocessors/DSP/FPGA
- Industrial Controllers
- Test and measurement
- Fibre Channel

### Electrical Specification

|                               |  |
|-------------------------------|--|
| Frequency Range:              | 0.750MHz ~ 180.0MHz                      |
| Frequency stability:          | from $\pm 20$ ppm to $\pm 100$ ppm       |
| Operating Temperature Range:  | -40° ~ +85°C                             |
| Storage Temperature Range:    | -55° ~ +125°C                            |
| Supply Voltage:               | +2.5 Volts $\pm 5\%$                     |
| Input Current                 |  |
| 0.75 ~ 20MHz:                 | 22mA max.                                |
| 20+ ~ 50MHz:                  | 25mA max.                                |
| 50+ ~ 100MHz:                 | 29mA max.                                |
| 100+ ~ 130MHz:                | 32mA max.                                |
| 130+ ~ 160MHz:                | 35mA max.                                |
| 160+ ~ 180MHz:                | 37mA max.                                |
| Output Load:                  | 15pF standard<br>30pF < 125MHz available |
| Start up Time:                | 10mS                                     |
| Output Enable/Disable Time:   | 100ns                                    |
| Output Low/High Voltages      |  |
| 0.75 ~ 150MHz:                | 10%Vdd max./90%Vdd min.                  |
| 160+ ~ 180MHz:                | 20%Vdd max./80% Vdd min.                 |
| Symmetry:                     | 45%/55%                                  |
| Rise/Fall Times               |  |
| 0.75 ~ 160MHz:                | 3.5ns max.                               |
| 160+ ~ 180MHz:                | 2.5ns max.                               |
| Moisture Sensitivity Level:   | 1  |
| Termination Finish:           | Au                                       |
| Maximum Soldering Parameters: | 260°C for 10 seconds                     |

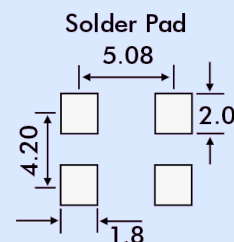
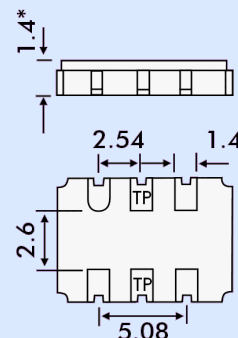
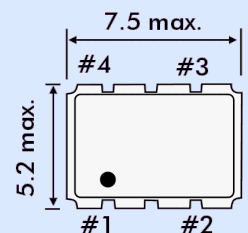
### Model Selection Guide



### Jitter Measurements

| Frequency (MHz) | Phase Jitter (12kHz~20MHz) (ps RMS) | Time Interval Error $\sigma$ of jitter distribution (ps RMS) | Rj/Dj Composition           |                                    |   |
|-----------------|-------------------------------------|--|-----------------------------|------------------------------------|---|
|                 |                                     |  | Random Jitter (Rj) (ps RMS) | Deterministic Jitter (Dj) (ps p-p) | Total Jitter (Tj) ( $14 \cdot Rj + Dj$ ) (ps) |
| 62.5            | 2.1                                 | 3.1  | 1.3                         | 8.4                                | 27.6  |
| 106.25          | 1.2                                 | 3.5  | 1.4                         | 8.3                                | 27.7  |
| 125.0           | 1.1                                 | 2.7  | 1.3                         | 6.7                                | 25.6  |
| 156.25          | 0.8                                 | 3.7  | 1.4                         | 9.7                                | 29.5  |

### OUTLINE & DIMENSIONS



### Pad Connections

- 1 Enable/Disable
- 2 Ground
- 3 Output
- 4 Vdd

\* TP are test points - not connected

### Supply Format

Tape and Reel, 16mm tape, 8.0mm pitch, 1k reel = 178mm $\varnothing$ , 2k reel = 255mm $\varnothing$