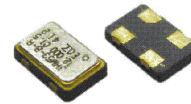


**7 x 5 x 1.8mm SMD Spread Spectrum Clock Oscillator**

- Provides up to 15dB reduction in system EMI
- 'Drop-in' replacement for standard clocks
- Choice of modulation rate and spread
- Miniature package: 7.0 mm x 5.0 mm x 1.8mm



In electrical systems the principal cause of electro-magnetic interference (EMI) is the system clock oscillator. Traditional methods of 'patching-up' systems with too high a level of EMI is to use ferrite beads, filters, ground planes, metal shielding and similar costly methods, However, the most efficient and economic method to reduce EMI is to reduce it at source: replace the system clock oscillator with a low EMI clock oscillator.

Compared with conventional clock oscillators, Spread Spectrum (Dithered) Oscillators can reduce EMI by as much as 15dB. The part is a 'drop-in' replacement for a standard clock oscillator hence there is no requirement to re-design existing PCBs.

**DESCRIPTION**

EQHM57 series low EMI oscillators can reduce system EMI by 15dB. The oscillators are a 'drop-in' replacement for standard oscillators. EMI reduction is achieved by the use of Spread Spectrum Technology whereby the mode energy is spread over a wider bandwidth. The modulation carrier frequency, operating in the kHz region, makes the process transparent to the oscillator frequency. There is a choice of modulation rates and spread to suit application requirements.

**SPREAD SPECTRUM TECHNOLOGY**

Unlike a conventional clock oscillator, in a Spread Spectrum Clock Oscillator the mode energy is spread over a wider bandwidth. This is achieved by the frequency modulation technique. The controlled modulation process may be applied to the 'down' side of the nominal frequency (known as **DOWN SPREAD**), or spread equally either side of nominal (**CENTRE SPREAD**). Down Spread is preferred if over-clocking would cause a problem to the system.

**APPLICATIONS**

- Printers, Multiple Function Printers (MPCs)
- Digital Copiers; PDAs
- Networking: LAN/WAN; Routers
- Storage Systems (CD-ROM, VCD, DVD, HDD)
- Scanners; Modems; Projectors
- Embedded Systems
- Musical Instruments
- Automotive: GPS car navigation systems
- LCD PC Monitors; LSD TVs
- ADSL; PCMCIA
- Still Digital Cameras (SDCs)

**MODULATION TYPES - EXAMPLES**

Output amplitude (dB) vs. frequency span (MHz)

