



Output frequency range: 2.5 MHz to 100 MHz at 5.0 V
Equipped with output enable function
Operating voltage: 4.5 to 5.5 V or 3.0 to 3.6 V
Operating temperature: -10°C to +70°C
Soldering conditions: 260°C or less x 10 sec.
or less x 2 times or less;
or 230°C or less x 3 min.
or less
Dimensions: (W) 14.00 x (D) 8.65 x (H) 4.7 mm;
(W) 10.5 x (D) 5.0 x (H) 2.7 mm

Product Features

The SG-8000 series of programmable high-frequency quartz oscillators entered volume production in 1997. This quartz oscillator, which was developed in response to user needs for shorter lead times, was based on the unique new idea that a special writer could be used to select and write the required oscillation frequency, output conditions, and drive voltage to assembled oscillator “blanks” provided with PLL (phase locked loop) and PROM (programmable read only memory) technologies.

The oscillators in the SG-8000 series could be programmed to produce some 30,000 different frequencies, a number that represented approximately 80% of the standard frequencies used in the market. Equipment makers were able to use the same oscillator for various different products simply by selecting a frequency in a program. This enabled Epson to accommodate even low-volume orders from its customers.

The SG-8000 series of quartz oscillators also enabled Epson to dramatically shorten the time it took to ship a product once the order was received. In fact, the lead-time for one of the new oscillators was only one-third that of a conventional oscillator. This short order turnaround meant that, even for volume-produced items, the versatility of this series meant that there was no need to keep an inventory of quartz oscillators with different functions and frequencies.

Background

As competition intensified in expanding markets for mobile information equipment and consumer devices such as mobile phones and digital video cameras, manufacturers fought hard to give their products the greatest utility. Makers set out to plan and develop the smallest, lightest, and most power-efficient products possible. Eyeing this competition, Epson began developing quartz oscillators whose output frequencies could be programmed by customers. Epson's intent was to use its semiconductor technology to enable customers to respond quickly to the need for shorter product development cycles, which was in itself a result of stepped up market competition. In January 1997 the newly developed SG-8000 series of quartz oscillators entered volume production.

Impact

The programmable quartz oscillators in the SG-8000 series were welcomed by customers because they answered their need for greater flexibility and speed. With subsequent expansion and enhancement of functions, the SG-8000 series has gone on to become an important line of crystal device products.