198 Stauffer Blvd., San Jose, CA 94125 Tel: (408) 995-6200 Fax: (408) 938-5580

NJRC Clock Oscillator Chips Save Space and Cost

NJU63XX Series miniature crystal oscillators offer a convenient space and cost effective solution for any applications requiring timing/frequency generation.

NJU Series ICs consist of an oscillation amplifier, 3-stage divider and 3-state output buffer with available frequencies ranging from 4.375 to 120 MHz for a wide range of frequency generation applications. Oscillators are available with both TTL and CMOS compatible input and output as well as output buffer capable of 10 TTL driving. Please refer to the attached copies of pages 5-1 through 5-4 of the NJU63XX Selection Guide from the NJR CMOS IC catalog for further details.

NJR clock oscillators offer a convenient alternative to the standard oscillator solution due to its low cost and small size. In the case of the typical oscillator in a can package, the NJR chip is coupled with a through-hole mounted crystal to form an effective substitute. An oscillator package is typically sold for over a $1.00 even in high volume. NJR chip ranging between $.34 to $.44 together with the through-hole crystal selling for about $.40 represent a significant cost saving to the high volume customer base. These products are available in the 5 X 3.9mm 8-Pin SMT packages of 1.5mm height and can be used in a dual footprint circuit that would allow the customer the flexibility to switch away from the oscillator chip as part of an alternate source or a cost reduction effort. An example of such dual footprint layout is shown on ***Figure 1*** on the next page.

As this diagram clearly shows, the 4-Pin DIP clock oscillator chip occupies significantly more space than the crystal and NJR chip combined.

In addition, NJR is one of the largest suppliers of oscillators to many end-users and oscillator module manufacturers in die form which significantly reduces customer qualification and integration cycle.

Thus, NJU63XX Series oscillators provide a great alternative to the standard oscillator approach.

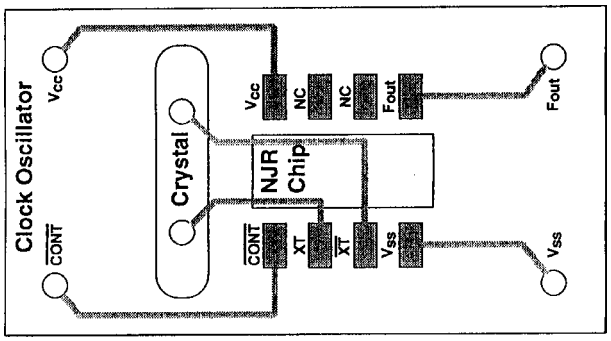

Figure.1

NOTES:

- The dimensions are not to scale.
- This application assumes that the clock oscillator chip and the NJR chip solution are on the same side.
- The $\overline{\text{CONT}}$ input is a 3-state output control that is internally set high for normal operation and disables the output when low. For critical power dissipation applications such as battery operated equipment, the NJU6321 (footprint not shown) offers an oscillation stop feature when the input is low .