



**Temperature-to-frequency converter.** Frequency of relaxation oscillator varies with temperature-dependent voltage across 1N914 diode. Over 0°C-to-100°C temperature range, frequency changes linearly from 0 to 1,000 Hz. Therefore frequency meter at output can show temperature directly. Accuracy is  $\pm 0.3^\circ\text{C}$ . Excellent performance and low cost (less than \$5 for parts) make this circuit outstanding.

ers and a 1-Hz square wave. The 1-Hz square wave can be fed to the base of the 2N2222 through a 2.2-kilohm resistor, and the resultant gated pulses at the output can then be fed to TTL counters. □