Tiny Crystal Oscillator

This simple oscillator circuit is made with two tiny integrated circuits in the SOT outline package. The LP2980 is a low-dropout 3.3 volt regulator and the NC7504M5 is a single-gate AC logic IC. The crystal may be any fundamental AT-cut from below 5 MHz to over 20 MHz. The feedback is through a voltage divider to keep the crystal drive level low for good aging and short-term stability. The output is a 3 volt squarewave suitable for driving high impedance loads. It may be desireable to add an additional gate if improved load isolation is desired. Current consumption is below 2mA at 10 MHz and varies slightly with frequency.