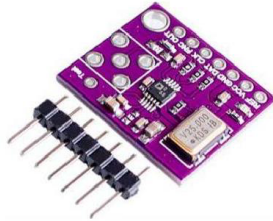


# Programmable Microprocessors Sine Square Wave DDS Signal Generator Module



## Product description

### Description:

The AD9833 is a low power, programmable waveform generator capable of producing sine, triangular, and square wave outputs. Waveform generation is required in various types of sensing, actuation, and time domain reflectometry (TDR) applications. The frequency registers are 28 bits wide: with a 25 MHz clock rate, resolution of 0.1 Hz can be achieved; with a 1 MHz clock rate, the AD9833 can be tuned to 0.004 Hz resolution

The AD9833 has a standard serial interface that allows the part to interface directly with several microprocessors. The device uses an external serial clock to write the data or control information into the device

The AD9833 is written to via a 3-wire serial interface. This serial interface operates at clock rates up to 40 MHz and is compatible with DSP and microcontroller standards.

The device operates with a power supply from 2.3 V to 5.5 V

The AD9833 has a power-down function (SLEEP). This allows sections of the device that are not being used to be powered down, thus minimizing the current consumption of the part.

### Features:

- Digitally programmable frequency and phase
- 12.65 mW power consumption at 3 V
- 0 MHz to 12.5 MHz output frequency range
- 28-bit resolution: 0.1 Hz at 25 MHz reference clock
- Sinusoidal, triangular, and square wave outputs
- 2.3 V to 5.5 V power supply
- No external components required
- 3-wire SPI interface
- Power-down option
- Update Rate: 25(max)

VOUT Maximum: 0.65V  
VOUT Minimum: 38mV  
VOUT Temperature Coefficient: 200°C  
Input High Voltage : 1.7-2.8V  
Input Low Voltage: 0.5-0.7V  
Input Current: 10μA  
Input Capacitance: 3pF  
Operating temperature range is -40°C to +105°C; typical specifications are at 25°C

