

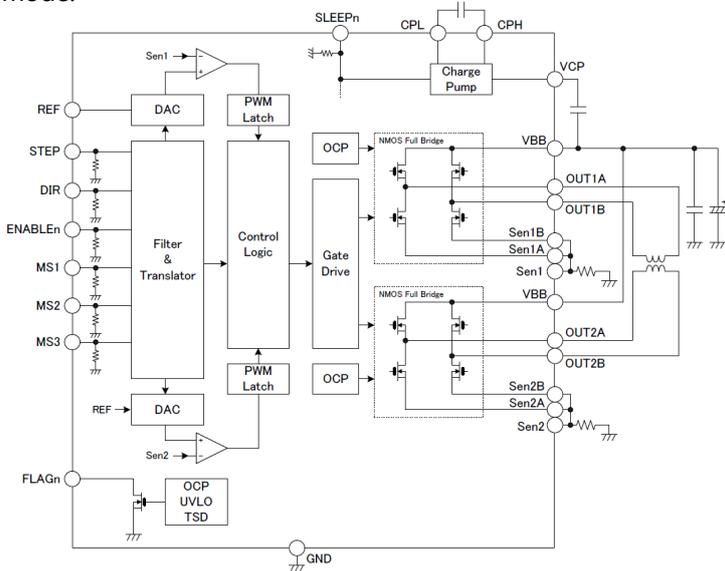
High-current, (4W1-2) Bipolar Stepping Motor Driver



Package:
SOP36

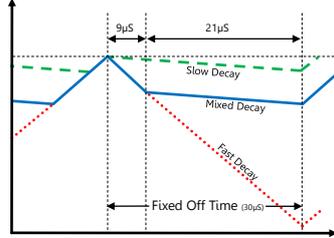
Overview

The SX7232M/SX7236M are complete micro-stepping motor drivers with built-in translator (sequencer) for easy operation with minimal control lines. The SX7232M/SX7236M are operated by single power supply and requires no external logic supply to drive the internal translator. They are designed to operate bipolar stepper motors in full, half, quarter, eighth and sixteenth step modes, including a 100% full torque step mode.



The currents in the N-channel MOSFET bridges are regulated with fixed-off time PWM (pulse width modulated) control circuitry. At each step, the current for each full-bridge is set by the value of its external current-sense resistors, a reference voltage, and the output voltage of the DAC (which is controlled by the output of the translator). At power-on or reset, the translator sets the DACs and the phase current polarity to the initial Home state.

Micro-stepping performance is improved with the implementation of a Mixed Decay Mode current regulation. Hence reducing distortion of the current waveform that results from the back EMF of the motor.



When a step command signal occurs on the STEP input, the translator automatically sequences the DACs to the next level and current polarity. The micro-step resolution is set by the voltage on logic inputs MSx. DIR input determines the direction of rotation of the motor.

Features

- Ultra-low ON resistance outputs (SX7232M: 50mΩ typ, SX7236M: 80mΩ typ)
- 7 types of excitation mode up to sixteenth step mode
- Low current sleep mode (20µA)
- Synchronous rectification for low power dissipation
- Internal protections
 - Power-On Reset (POR)
 - Under voltage lock out (UVLO)
 - Thermal shutdown (TSD)
 - Over current protection for short-to-supply, short-to-ground and shorted-load (OCP)
 - Crossover-current protection
- Diagnostics output, FLAGn pin
- Single supply operation (No external logic supply for internal sequencer)
- Special power-on/off sequence is NOT required

SX723xM Series Line up

Parts No.	Absolute maximum ratings	Type
SX7231M	40V / 5A	Phase input
SX7232M		Clock input
SX7235M	60V / 5A	Phase input
SX7236M		Clock input
18275	SX723xM DEMO BOARD	

Demo Board



Applications

- Multi-Function Printer (MFP)
- Automated Teller Machine (ATM)
- Embroidering machine, etc
- Industrial CNC Machines