

MPC17C724

0.4 A Dual H-Bridge Motor Driver IC

Dual H-Bridge Motor Driver

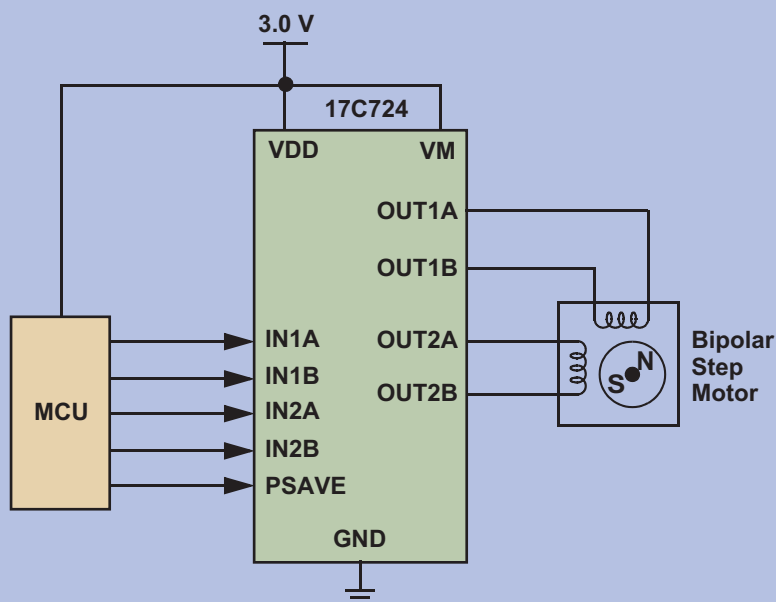
DESCRIPTION

The MPC17C724FS is a compact monolithic dual channel H-Bridge power IC, ideal for portable electronic applications containing bipolar stepper motors or brush DC motors such as those used in camera lenses and irises.

The MPC17C724FS can operate efficiently with supply voltages from 2.7 V to 5.5 V and can provide continuous motor drive currents of 0.4 A with low RDS(ON) of 1.0 Ω . It is easily interfaced to low-cost MCUs via parallel 3.0 V- or 5.0 V-compatible logic and has built-in shoot-through current protection circuit and undervoltage detector to avoid malfunction.

The MPC17C724FS has four output control modes: Forward, Reverse, Brake, and Tri-State (High Impedance). The H-bridge outputs are designed to be independently PWM'ed at up to 200 kHz for speed/torque and current control.

MPC17C724FS SIMPLIFIED APPLICATION DI-



APPLICATIONS

- Camera Lens and Irises
- Micro Toy
- Web Camera
- Security Camera

PERFORMANCE

TYPICAL VALUES

Outputs	4
Motor Drive Supply Voltage (VM)	3.3 V
ESD (HBM)	± 2000 V
Operating Temperature	$-20^{\circ}\text{C} \leq T_A \leq 85^{\circ}\text{C}$
Junction Temperature	$-20^{\circ}\text{C} \leq T_J \leq 150^{\circ}\text{C}$

FEATURES

- Manufactured in SMOS7 Process Technology
- Built-In 2-Channel H-Bridge Driver
- Provides 4 Driving Modes (Forward, Reverse, Break, High Impedance)
- Direct Interface to MCU
- Low ON-Resistance, $R_{DS(ON)} = 1.0 \Omega$ (Typical)
- Dual Channel Parallel Drive, $R_{DS(ON)} = 0.5 \Omega$ (Typical)
- Output Current Driver (IDR) is 400 mA (Continuous)
- Low Power Consumption
- Built-In Shoot-Through Current Prevention Circuit
- Built-In Low-Voltage Shutdown Circuit
- PWM Control Frequency 200 kHz (Max)
- Very Compact Size, Comes in 16-Terminal QFN Package (3 x 3 mm Terminal Pitch: 0.5 mm)
- Pb-Free Packaging Designated by Suffix Code EP
- Devices available for comparison are in the Analog Product Selector Guide - SG1002, and Automotive Product Selector Guide - SG187.

PROTECTION	LIMITING	SHUT DOWN
Undervoltage		●
Shoot Through Current Protection	●	

CUSTOMER BENEFITS

- Small motor driver minimizes mounting area
- Moderate drive current capability for small motor
- Can connect with low cost MCU
- Can put on small aperture of PCB for motor drive

QUESTIONS

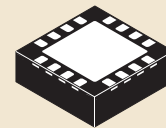
- Are you looking for a small motor driver IC for stepper motors?
- Do you need a small motor driver IC for one channel 400 mA DC output current?
- Do you need to reduce the PCB area?
- Do you need shoot through current protection?

ORDERING INFORMATION

Device	Temperature Range (T_A)	Package
**MPCMPC17C724F SEP/R2	-20°C to 85°C	16 QFN

Data Sheet Order Number
MPCMPC17C724FS

**Prefix Index:
PC = Engineering Samples; MC = Production



16 QFN-EP
0.5 mm Pitch
3.0 mm x 3.0 mm Body
1.7 mm x 1.7 mm Exposed Pad