

**ANALOG
PRODUCTS**

**PC33393
FACT SHEET**



PC33393 STEPPER MOTOR CONTROLLER

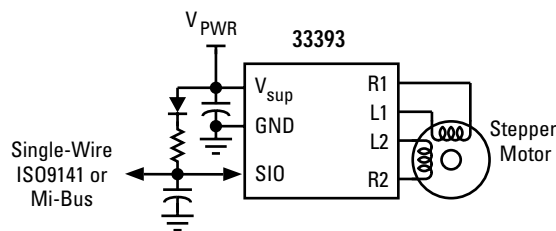
The PC33393 is a microcontroller based stepper motor controller with a multiplex bus interface. The device offers a cost effective solution with a high degree of flexibility for application control and protocol handling.

The highly integrated single package solution incorporates an HC05 microcontroller with Timer, Internal Software Trimmable Oscillator, EEPROM/ROM Memory, Four Push-Pull Outputs with selectable current control, Internal Voltage Regulator, and ISO9141 / Mi-Bus physical layer interface.

APPLICATIONS

- Automotive Systems
- Aircraft Systems
- Robotic Systems
- Farm Equipment
- Industrial Actuator Control
- Marine Applications

Simplified Application Diagram



The combination uses economy of scale to provide optimized stepper motor control in systems using ISO9141 or Mi-Bus protocols.

CUSTOMER BENEFITS


- Simple system design with a single device solution
- Reduced space resulting in enhanced reliability
- Internal protection features fully protecting outputs with status reporting
- Faster design cycle time
- Economical stepper motor control solution with few external components
- Easy control of Stepper Motors
- Wiring and connector savings using ISO9141 or Mi-Bus system
- Two package options (mechatronic and surface mount LQFP52ep)

PERFORMANCE	TYPICAL VALUES
Half-Bridge Outputs	4
R _{DS(on)} @ 25°C	3.0 Ω
Peak Current	175 mA
Operating Voltage	8.0 – 18 V
Bus Output	ISO9141 or Mi-Bus
ESD	4000 kV
Operating Temp	-40°C ≤ T _A ≤ 85°C

FEATURES

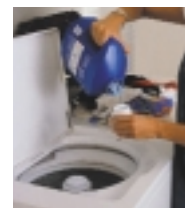
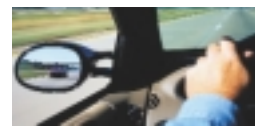
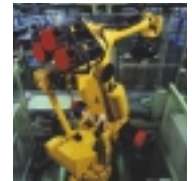
- HC05 MCU with Timer, 1.0 k EEPROM / ROM memory, and analog functions
- Four protected half-bridge outputs with diagnostic reporting, selectable load current limit, and reporting
- Selectable Load Currents of 85 or 135 mA
- Bridge back EMF reporting (BEMF) for motor stall detection (stepper motor applications)
- ISO9141 / Mi-Bus physical layer
- Diagnostic Reporting

Protection	Detect	Shut Down	Limiting	Status Reporting
Power Output				
Over Current/SC	•	•	•	•
Under Voltage	•	•		•
Over Voltage	•	•		•
Over Temperature	•	•		•
Bus Line				
Over Current	•		•	•

Ordering Information	Package	Ship Method	Motorola Part Number
	52LQFP	Tray	PC33393YFTB
	Data Sheet Order Number		MC33393/D

QUESTIONS

- Does a single package stepper motor controller solution having load protected outputs, using an ISO9141 / Mi-Bus, with an HC05 MCU included interest you?
- Do you have limited space available for load control?
- Do you need a flexible solution for load control and protocol handling?
- Do you have a need to reduce system cost?



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Rev. 0