



System Highlights

- Conforms to Freescale Semiconductor's Tower System
- Jumper configurable
- 8.0V to 28V continuous operation (transient operation from 5.0V to 40V)
- 3.0V and 5.0V TTL/CMOS logic compatible inputs
- Two independent H-bridge drivers
- Over-current limiting (regulation) via internal constant-Off-time PWM
- Output short-circuit protection (short to VPWR or GND)
- Temperature-dependent current-limit threshold reduction
- All inputs have an internal source/sink to define the default (floating input) states
- Sleep Mode with current draw <math>< 50\mu\text{A}</math> (each half with inputs floating or set to match default logic states)
- Screw terminals motor and motor power connection

2-Axis DC Motor Driver

Product Brief – Revision A

15 October 2009

DESCRIPTION

The cLS-FSTS-MC2-5 utilizes an MC33932. This is a monolithic H-bridge in a tough thermal package. The board also includes inputs from pulse sensors used for motor RPM. All I/O is routed through a jumper selection connector prior to the Tower System interface. This allows for the routing to one of two possible resources per interface points. Motor speed is controlled via two PWM pulses per motor; the PWMs have a maximum frequency of 11 KHz. The pulse sensors inputs are not required for the module to function. Each motor channel has an analog low-side current sense available for the Tower System CPU card.

Board ships with full schematics and code sample. Also included is an excel spreadsheet to be included with the Freescale Tower Configuration Tool.

PERFORMANCE

H-bridge outputs:	4
Outputs RDS_{on} :	120mΩ
PWM:	11 KHz
ESD:	2KV
Control/communication:	Parallel
Operating voltage:	8V to 28V
Operating current:	5A continuous, package is heat sunked to the ground plane



SPECIFICATIONS

Interface:

Selectable as required to conform to Tower System.
Screw terminals for motor and motor power connection.

Physical Characteristics:

Freescale Tower System format

Power Requirement:

Supply Voltage (Typical):	3.3V or 5.0V (5.5V Maximum)
Motor Supply Voltage:	8VDC – 28VDC
Current (Typical):	TBA
Motor Current:	5A per motor maximum

Environment Characteristics:

Operating Temperature:	-20°C to 90°C
Storage Temperature:	-40°C to 105°C
Relative Humidity:	0 to 90% non-Condensing

MODEL NUMBERS

cLS-FSTS-MC2-5: Dual channel motor card



c-Link Systems, Inc.

212 Eddie Kahkonen Road ~ Norway, ME 04268
Ofc: 207-743-0002 ~ Fax: 207-743-0861
www.c-linksystems.com