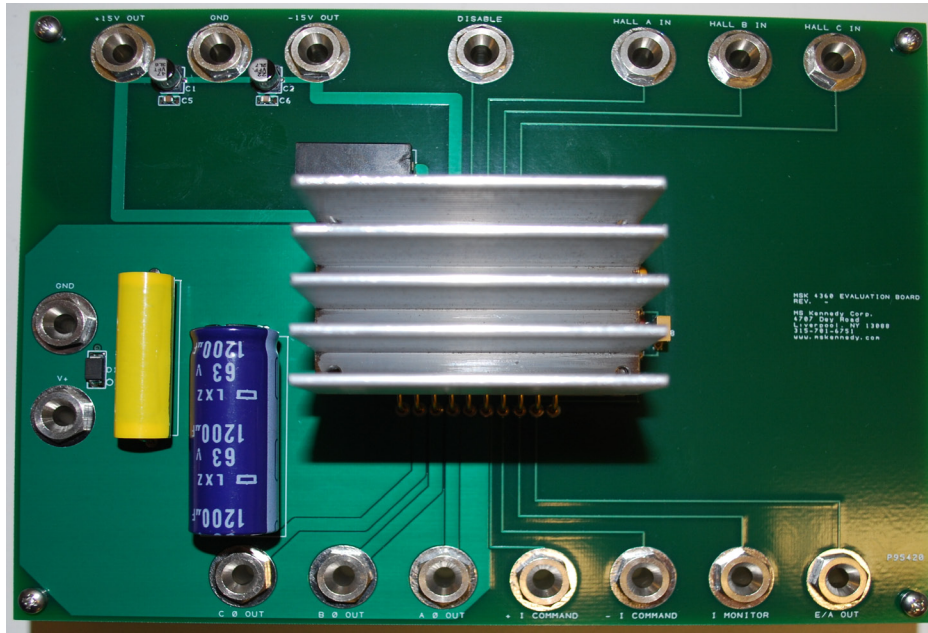


MSK4360 Evaluation Board User's Guide

By Dan Williams, MS Kennedy Corp.; Revised 1/10/14



Introduction

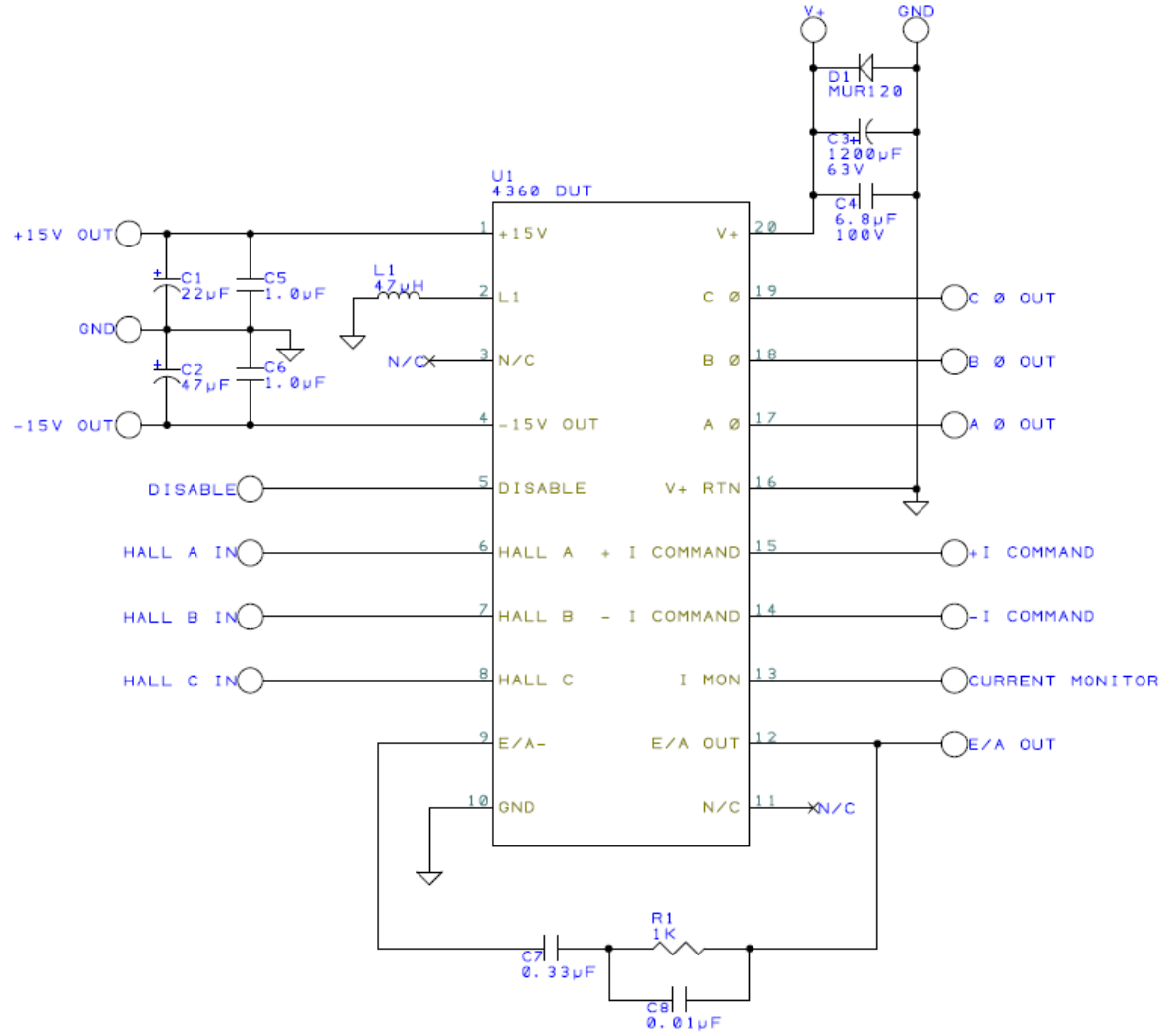
The MSK 4360 is a complete 3 Phase MOSFET Bridge Brushless Motor Control System in an electrically isolated hermetic package. The hybrid is capable of 10 amps of output current and 55 volts of DC bus voltage. It has the normal features for protecting the bridge. Included is all the bridge drive circuitry, hall sensing circuitry, commutation circuitry and all the current sensing and analog circuitry necessary for closed loop current mode (torque) control. When PWM'ing, the transistors are modulated in locked anti-phase mode for the tightest control and the most bandwidth. Provisions for applying different compensation schemes are included. The MSK 4360 has good thermal conductivity of the MOSFET's due to isolated substrate/package design that allows direct heat sinking of the hybrid without insulators.

Setup

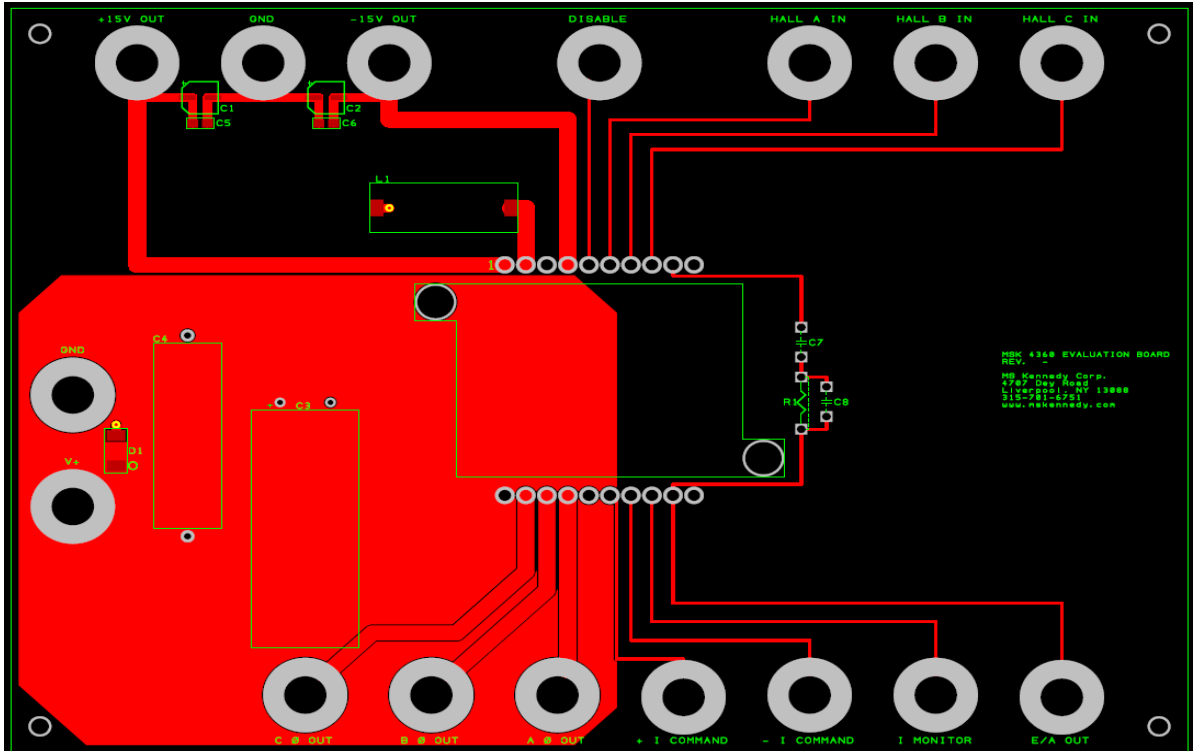
Use the standard 4mm banana jacks to interface with the assembly to connect to your power supply and motor assembly.

For further details please reference the MSK4360 data sheet.

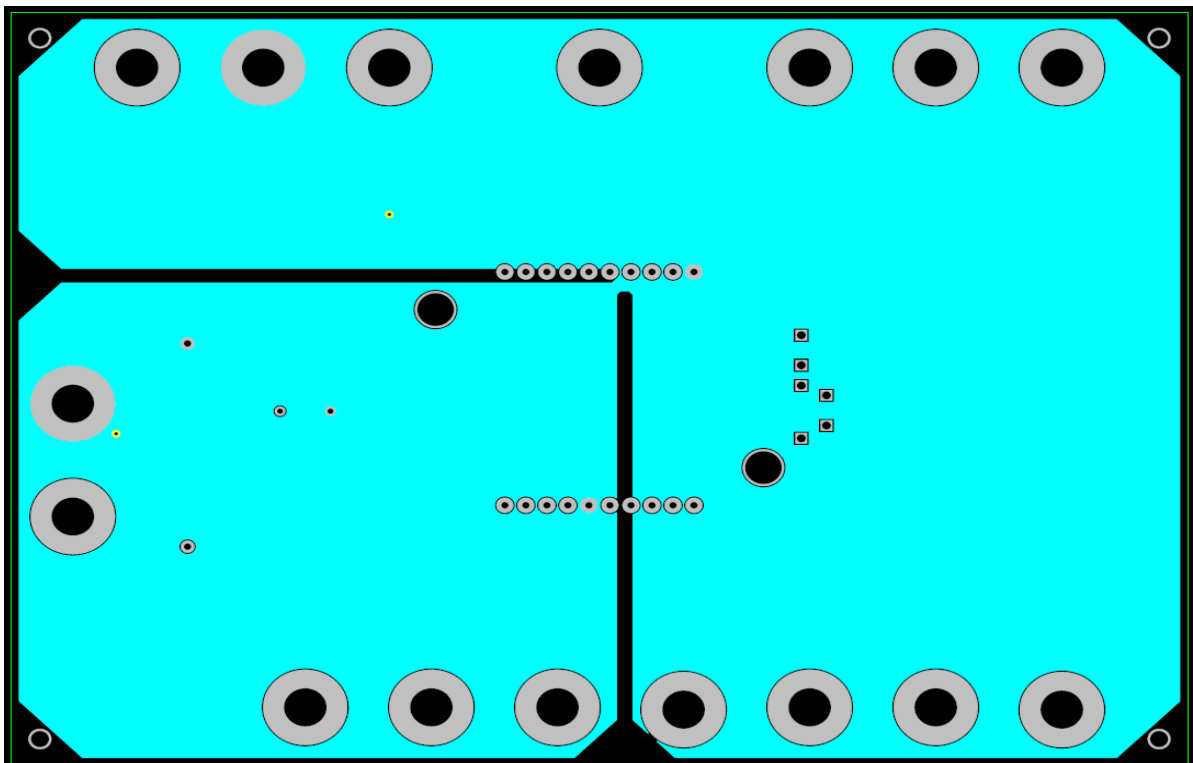
MSK 4360 EVALUATION BOARD SCHEMATIC



PCB Artwork



TOP LAYOUT



BOTTOM LAYOUT

Bill of Materials

Qty.	Description	Manufacturer	Part Number
16	Banana Plugs	Emerson Johnson	108-0740-001
20	Pin Sockets	Mill Max	0327-0-15-01-34-27-10-0
6	Pin Sockets	Mill Max	0677-0-15-01-30-27-10-0
1	MUR120 Diodes	ON Semiconductor	MURS120T3G
2	1 μ F Capacitors	TDK Corp	C2012X7R1H105K125AB
1	22 μ F Capacitor	Panasonic	EEE-FP1V220AR
1	47 μ F Capacitor	Panasonic	EEE-FT1V470AR
1	6.8 μ F Capacitor	Illinois Capacitor	685MWR100K
1	1200 μ F Capacitor	United Chemi-Con	ELXZ630ELL122ML40S
1	47 μ H Inductor	API Delevan Inc	8532R-21L
1	0.01 μ F Capacitor		CK05BX103K
1	0.33 μ F Capacitor		C330C334K5R5TA
1	1K Resistor	Vishay	RN55D1001FB14
4	4-40 x 3/8" Screws		
4	4-40 Washers		
4	#4, 7/8" Standoffs		
2	4-40 x 3/8" Screws		
2	4-40 Washers		
1	Heat Sink	MSK	TBD
1	Motor Controller	MSK	MSK 4360