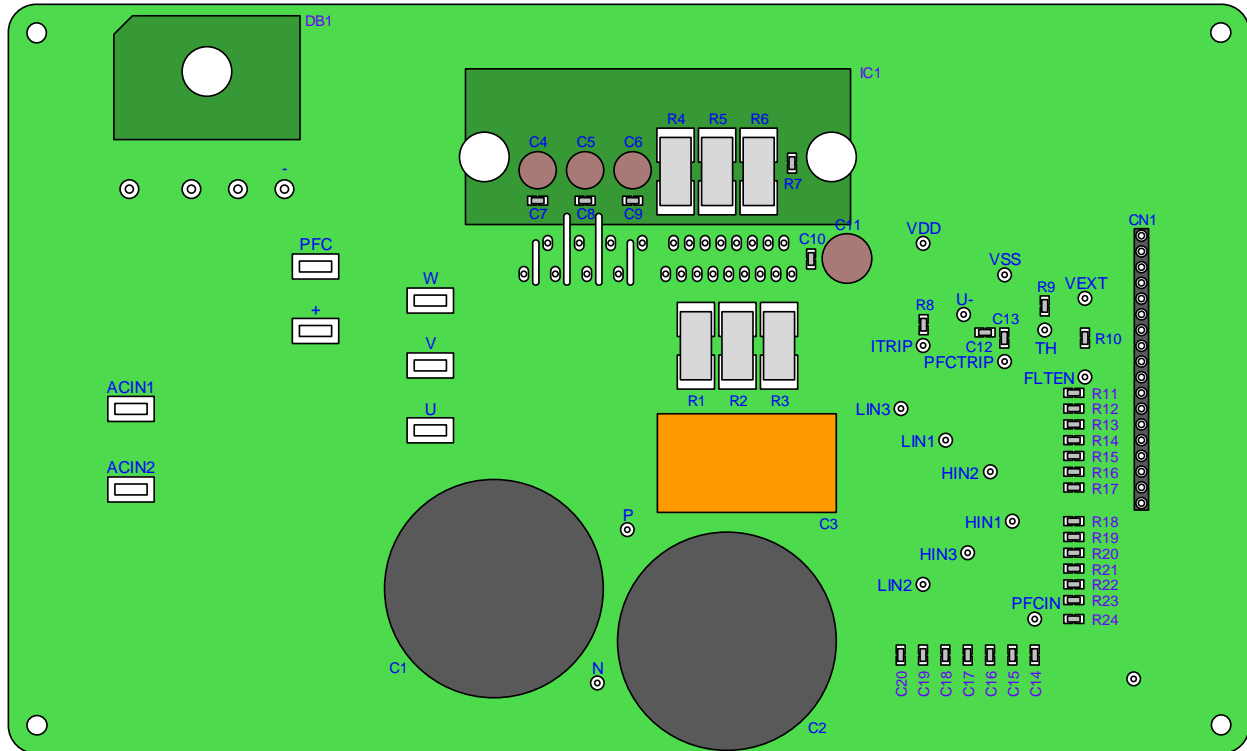


Test Procedure for the STK57FU394AGGEVB Evaluation Board

Description of each pin

Transparent view from top side

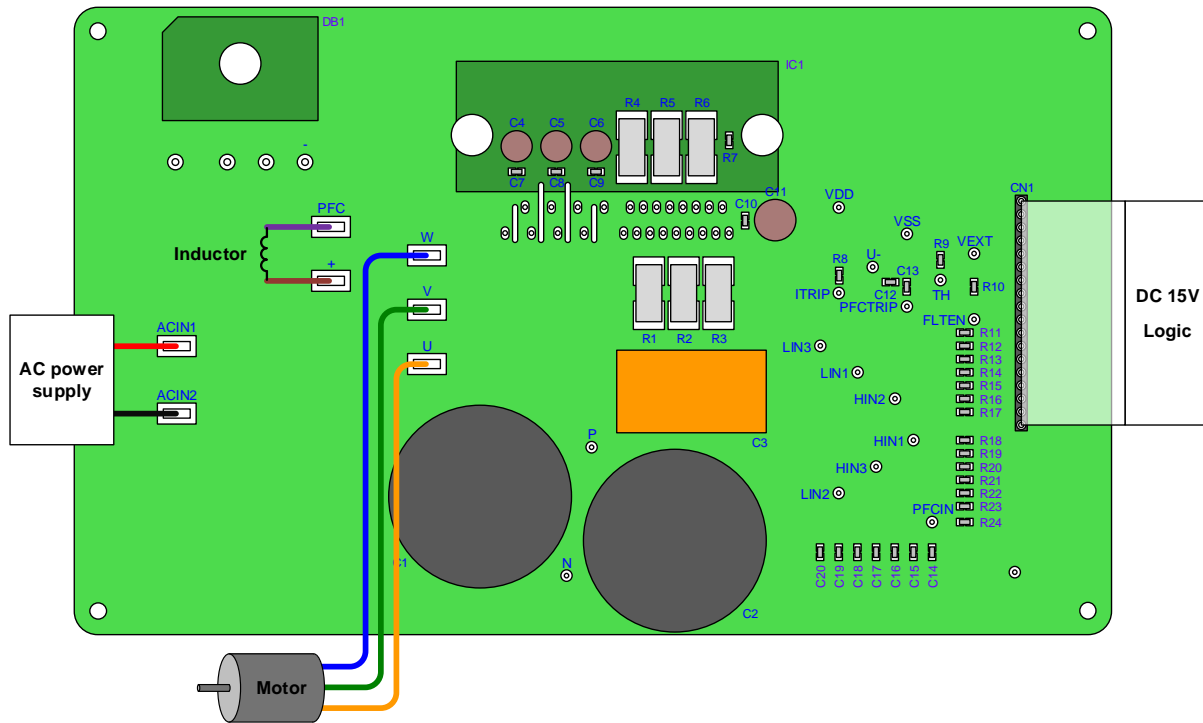


* IC1, DB1, R11-24, C14-20 are arranged on solder side.

U, V, W : 3 phase inverter output
VDD : Control power supply (DC15V)
VSS : Signal GND
PFC : Rectified AC Voltage input
HINx, LINx, PFCIN : Control signal input
ITRIP : Over-current protection for Inverter
PFCTRIP : Over-current protection for PFC
VEXT : FLTEN, TH pull-up
 Apply the logic I/O voltage
FLTEN : Enable input and Fault output
TH : Internal termistor
ACIN1, ACIN2 : Bridge diode AC voltage input
+, - : Bridge diode output

R1-6 : Shunt resistor, 3 parallel connection
R8 (, C12) : RC filter for ITRIP
R7 (, C13) : RC filter for PTRIP
R9 : Pull-up to VEXT (TH)
R10 : Pull-up to VEXT (FLTEN)
R11-17, C14-20 : Low pass filter for signal input
 Prevention malfunction by noise
C4-6 : Bootstrap capacitor
R18-24 : Pull-down to VSS for signal input
 Prevention malfunction by external wiring
IC1 : IPM
DB1 : Bridge diode

Operation procedure



- Step1:** Connect IPM, the three power supplies, logic parts, inductor and the motor to the evaluation board, and confirm that each power supply is OFF at this time.
- Step2:** Apply DC15V to VDD and the logic I/O voltage to VEXT.
- Step3:** Perform a voltage setup according to specifications, and apply AC power supply between ACIN1 and ACIN2.
- Step4:** The IPM will start when signals are applied. The low-side inputs must be switched on first to charge up the bootstrap capacitors.

Note : When turning off the power supply part and the logic part, please carry out in the reverse order to above steps.