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Test Procedure for the LV8760TGEVB Evaluation Board
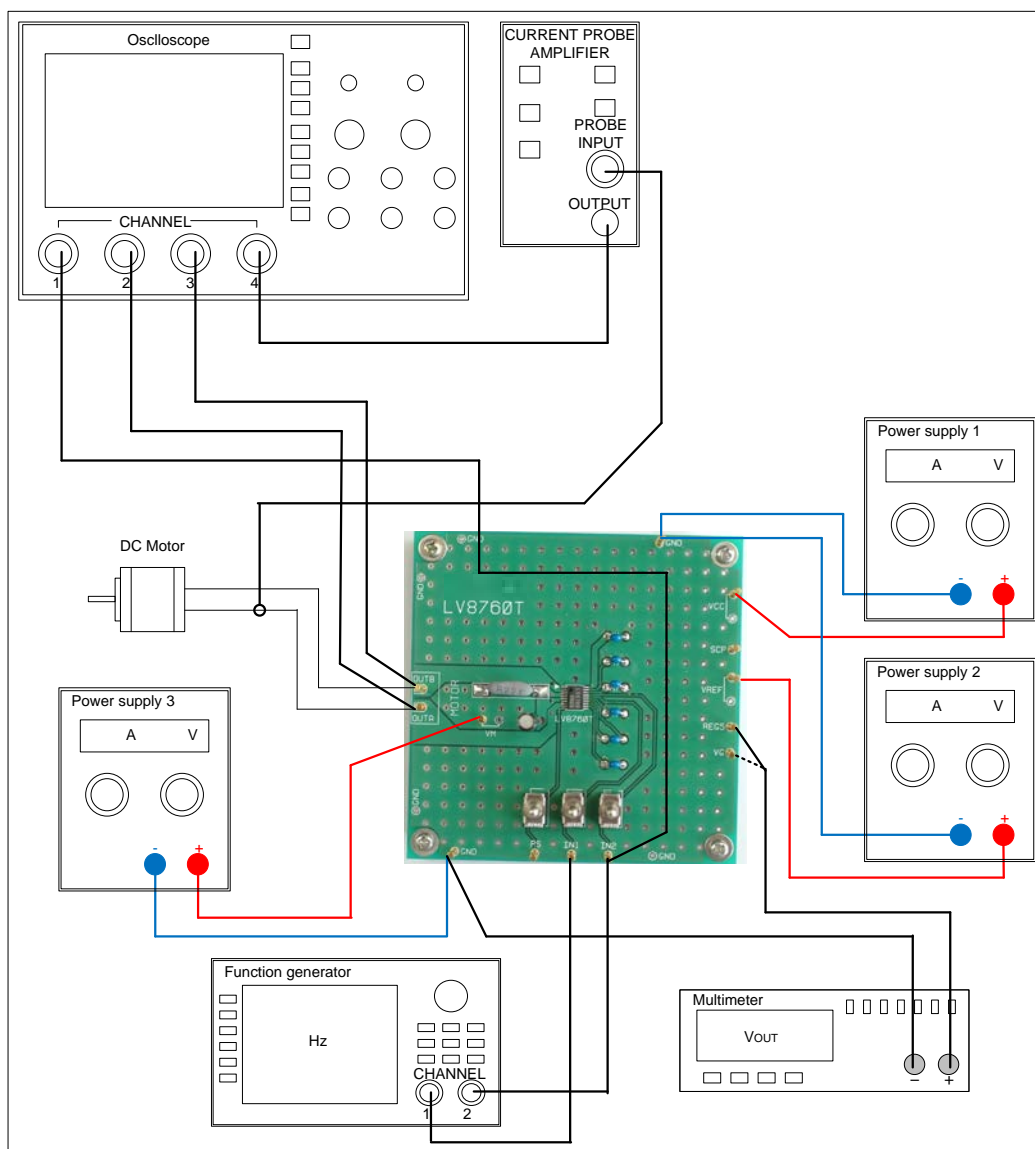
For DC Motor Control

Table1: Required Equipment

Equipment	Efficiency
Power supply1	10V-1A
Power supply2	5V-0.5A
Power supply3	40V-5A
Function generator	200kHz
Multimeter	-
Oscilloscope	4 channel
Current probe	-
LV8760T Evaluation Board	-
DC Motor	40V-3A

Test Procedure:

1. Connect the test setup as shown above.
2. Set it according to the following specifications.

Supply Voltage

- VM (9 to 35V): Motor Power Supply
- VREF (0 to VCC-1.8V): Current Limit Control Reference Voltage
- VCC (3 to 5.5V): Control Power Supply

Toggle Switch State

- Upper Side: High (VCC)
- Middle: Open, enable to external logic input
- Lower Side: Low (GND)

Operations Guide

1. **Initial Condition Setting:** Set "Open or Low" all switches.
2. **Motor Connection:** Connect the Motor between OUTA and OUTB.
3. **Power Supply:** Supply DC voltage to VM, VCC and VREF.
4. **Ready for Operation from Standby State:** Turn "High" the PS pin toggle switch.
5. **Motor Operation:** Set IN1, and IN2 pin according to the purpose.
   (See LV8760T's logic table).

Setting for External Component Value

1. Current limit value
   At VREF $= 1.5V$
   $(I)limit = VREF [V]/5/R1 [ohm]$
   $= 1.5 [V] / 5 / 0.22 [ohm]$
   $= 1.36 [A]$
2. Current limit regeneration time and short-circuit detection time
   $Tscp \approx C5 [pF] \times Vthscp[V]/Iscp[\mu A]$
   $= 100[pF] \times 1[V]/5[\mu A]$
   $= 20[\mu s]$

3. Check VREG5 and VG pin voltage at multimeter.
4. Check the IN1 or IN2 pin voltage at scope CH1, OUTA pin voltage at scope CH2, OUTB pin voltage at scope CH3, and the output current waveform at scope CH4.

Table2: Desired Results

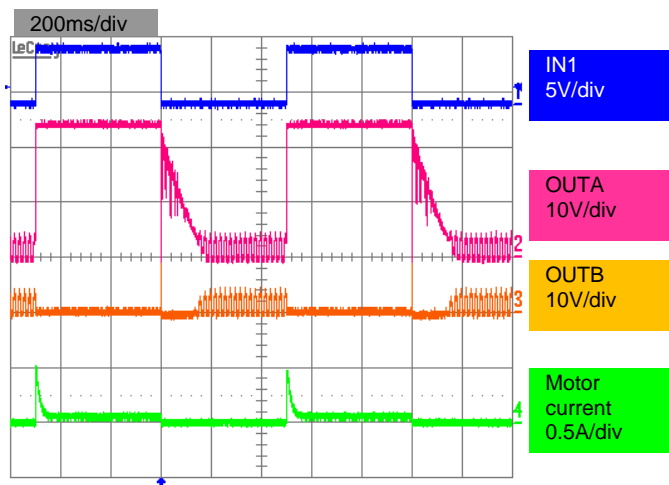| INPUT	OUTPUT
VM=24V VREF=1.5V VCC=5V PS=High	REG5=4.5V to 5.5V VG=28V to 29.8V

Figure.1 Forward↔Output off
IN2=Low

Figure 2. Forward↔Brake
IN1=High