**Document No. : 18-073689-01 Rev A**

**Title : EVAL-LTC7065-AZ Demo Board Test Procedure**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| REVISION HISTORY | | | | |
| **Revision** | **ECR #** | **Description of Change** | **Date** | **Author** |
| A | ECR-0xxxxx | Initial Release | 2/3/2023 | Scott Olson |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |
| --- | --- |
| **Required Approvers** | |
| **Approver Roles** | **Approver Names** |
| Apps Engineer | Scott Olson |
| Apps Manager | Charlie Richlie |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Test Procedure for EVAL-LTC7065-AZ (LTC7065)**

Applications Engineer: Scott Olson

PCB Designer: Kevin Chan

This demonstration circuit is a half-bridge driver that features the LTC7065, a half-bridge driver. The EVAL-LTC7065 employs the LTC7065, a half-bridge driver driving two N-channel MOSFETs in a half-bridge configuration.

The eval board contains footprints for an inductor and film cap that can be populated to form a buck converter. These components are not populated to allow the user to configure the board as desired.

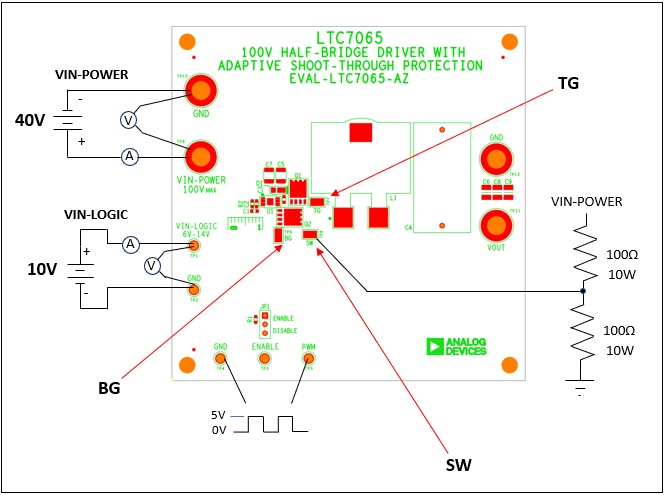


Figure 1. Proper measurement setup.

**Test Equipment Reqs:**

* Two Input Power Supplies:
  + VIN\_POWER– Supply Capable of at least 40V, 5A, 200W
  + VIN-LOGIC – Supply Capable of at least 10V, 2A, 20W
* Two 100Ω, 1%, 10W power resistors
* Signal generator capable of producing 0V to 5V at 1KHz with 50% duty cycle
* 100MHz oscilloscope with at least four available channels
* Two digital voltmeters
* Two ammeters

**Initial power-up:**

* Connect the two power supplies as shown (VIN-POWER and VIN\_LOGIC).
* Set VIN-POWER supply to 40V +/- 0.1V
* Set VIN-LOGIC supply to 10V +/- 0.1V
* Connect 100Ω load resistors as shown.
* Using signal generator, apply 0V to 5V +/- 0.1V, 1KHz square wave at 50% duty cycle on PWM pin.
* Ensure JP1 jumper is set to enabled.

**STEADY STATE FUNCTIONALITY TEST:**

Verify VIN-POWER current is 0.2A +/- 0.05A

Verify VIN-LOGIC current is 0.6mA +/- 0.2mA

**SWITCHING WAVEFORMS FUNCTIONALITY TEST:**

With a scope, place probes as described:

Time: 500us/div

CH1: SW (50V/div)

CH2: BG (10V/div)

CH3: TG (50V/div)

CH4: Signal Generator (5V/div)

20MHz bandwidth limiting can be applied for a cleaner waveform

Verify waveforms are as shown (see Figure 2):

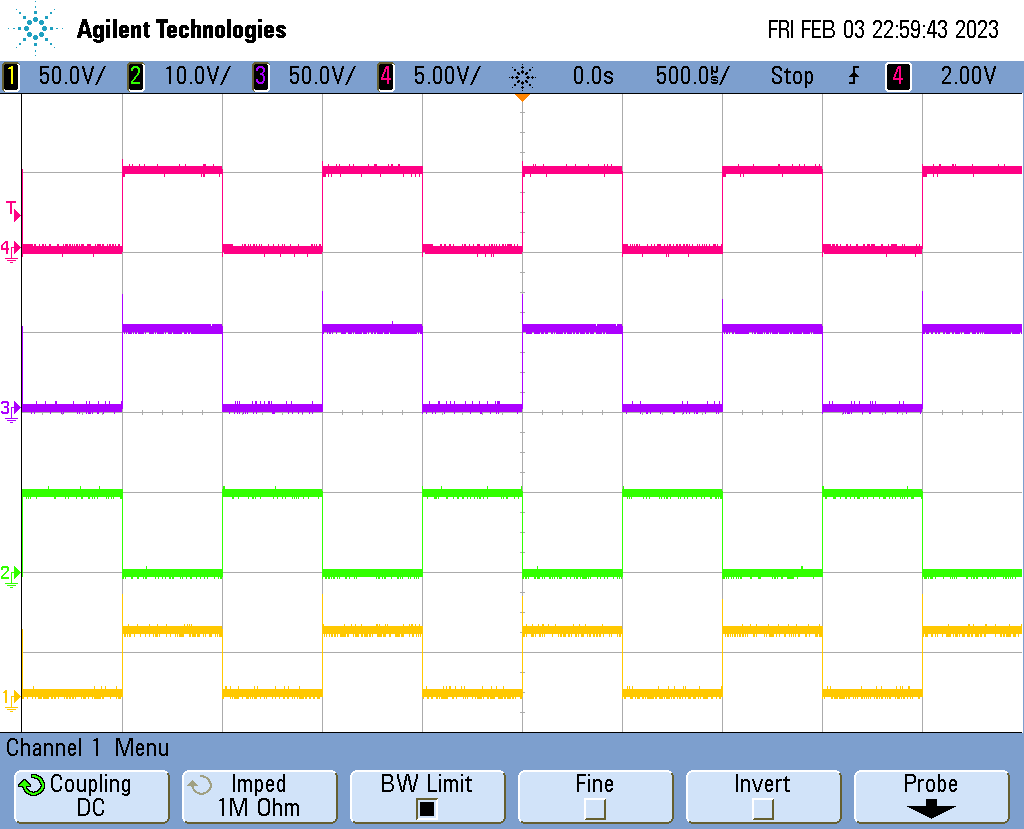
CH1: 0V to 40V +/- 2V square wave

CH2: 0V to 10V +/- 1V square wave

CH3: 0V to 50V +/- 3V square wave

CH4: 0V to 5V +/- 0.1V square wave at 1KHz +/- 10Hz

Figure 2. Scope Results



**Test complete**