



Test Procedure for the LV5068VGEVB Evaluation Board

Test Items & Ratings

Test Items	Parameter	Ratings		Unit
		Min	Max	
1. Operating Current	Consumption Current	0.52	0.60	mA
2. Soft Start Waveforms	Soft Start Time	0.90	1.87	mSec
3. Operate & Output Waveforms	Output Ripple Voltage	-	100	mV
	Oscillating frequency	305	414	kHz
4. HICCUP Operating Waveforms	HICCUP Time	9.0	18.7	mSec
5. Load Transient Response	Undershoot Voltage	-	250	mV
	Overshoot Voltage	-	250	mV



Test Setup 1

1. **Operating Current**
2. **Soft Start Waveforms**
3. **Operate & Output Waveforms**
4. **HICCUP Operating Waveforms**
5. **Load Transient Response**



Test Setup 1

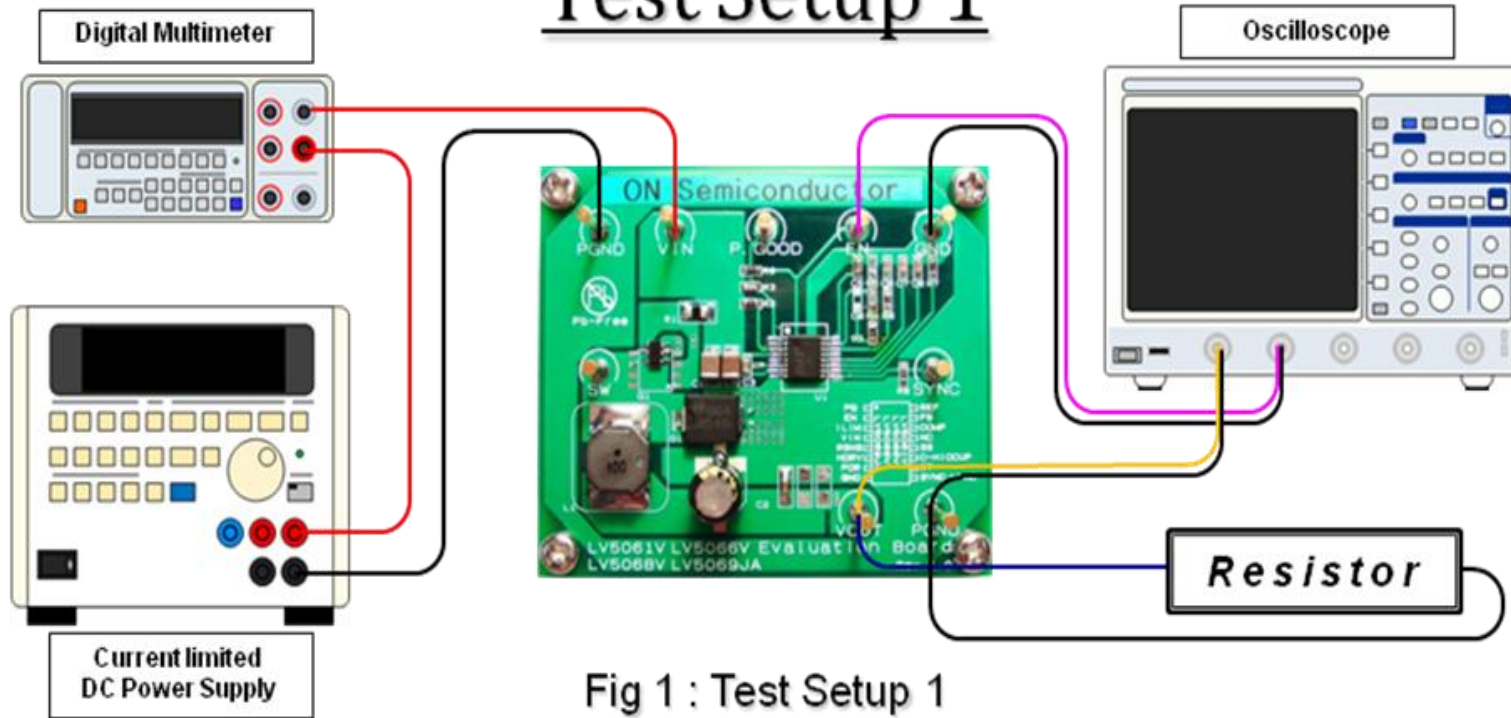


Fig 1 : Test Setup 1

Suggested Equipment :

- ✓ Current limited DC Power Supply (e.g. ADVANTEST R6243 DC Voltage Current Source/Monitor) 1pc
- ✓ Digital Multimeter {able to measure up to 30V and 3A} (e.g. ADVANTEST R6452 Digital Multimeter) 1pc
- ✓ Electronic Load (e.g. FUJITSU ACCESS LIMITED Electric Load EUL-150αXL) 1pc
- ✓ Oscilloscope (e.g. LeCroy WaveJet) 1pc

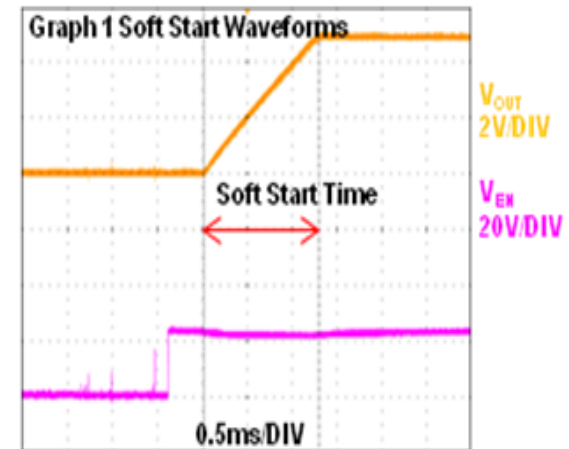


1. Operating Current

- ❑ The layout is as shown in Figure 1: Test_setup1 and supply input voltage ($V_{IN} = 24V$).
- ❑ Connected to the output load resistance ($2.5k\Omega$).
- ❑ Measure the current consumption, to ensure that it is within the specified value.

2. Soft Start Waveforms

- ❑ The trigger of oscilloscope is set to the rising edge and falling edge of EN voltage (V_{EN}).
- ❑ To measure the waveform of the startup when terminal EN shorted to GND, was released.
- ❑ Soft-start time to confirm whether it is within the specified value. (Graph.1)





Test Setup 2

1. Operating Current
2. Soft Start Waveforms
3. Operate & Output Waveforms
4. HICCUP Operating Waveforms
5. Load Transient Response



Test Setup 2

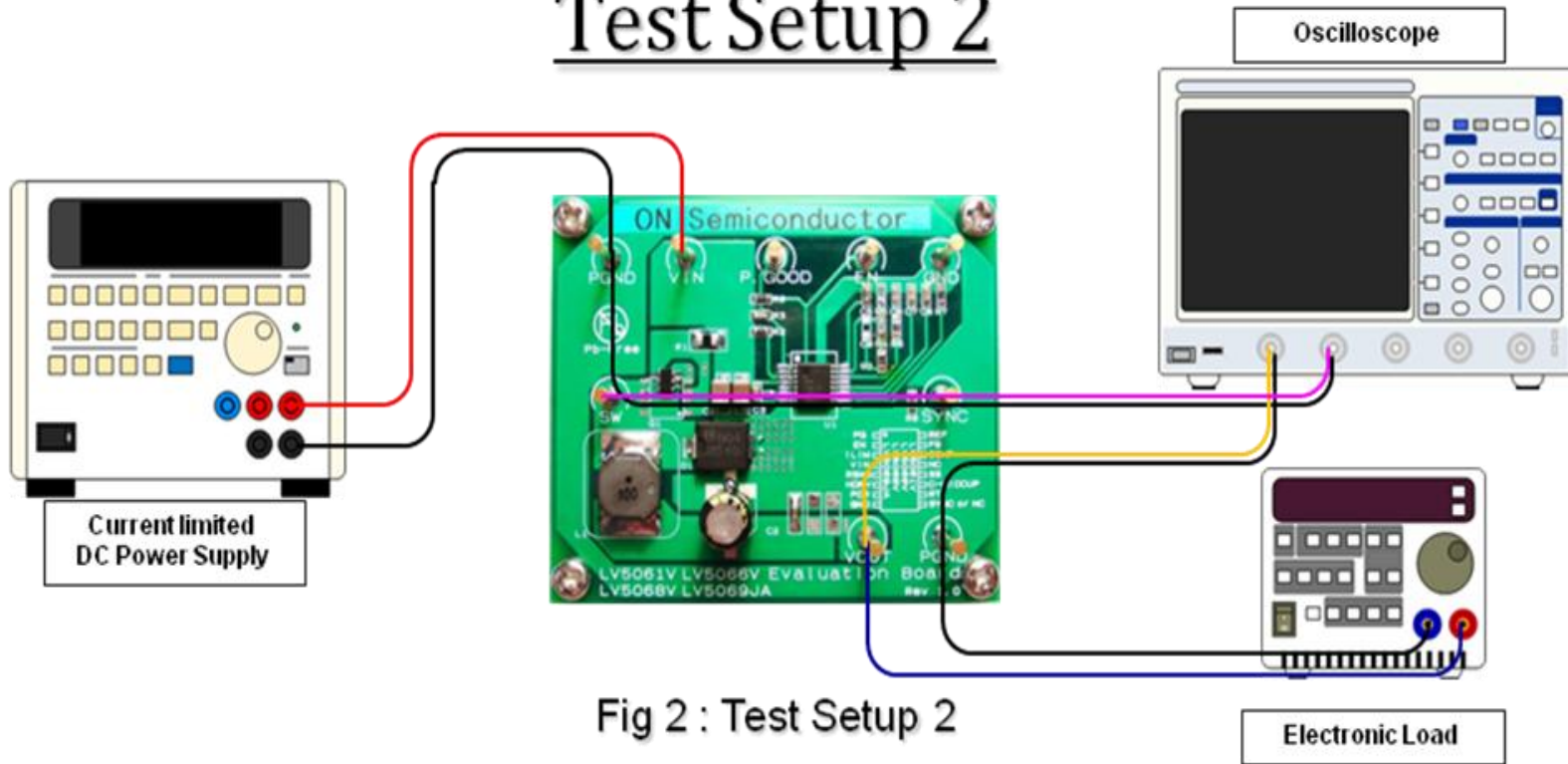


Fig 2 : Test Setup 2

Suggested Equipment :

- ✓ Current limited DC Power Supply (e.g. ADVANTEST R6243 DC Voltage Current Source/Monitor) 1pc
- ✓ Electronic Load (e.g. FUJITSU ACCESS LIMITED Electric Load EUL-150αXL) 1pc
- ✓ Oscilloscope (e.g. LeCroy WaveJet) 1pc

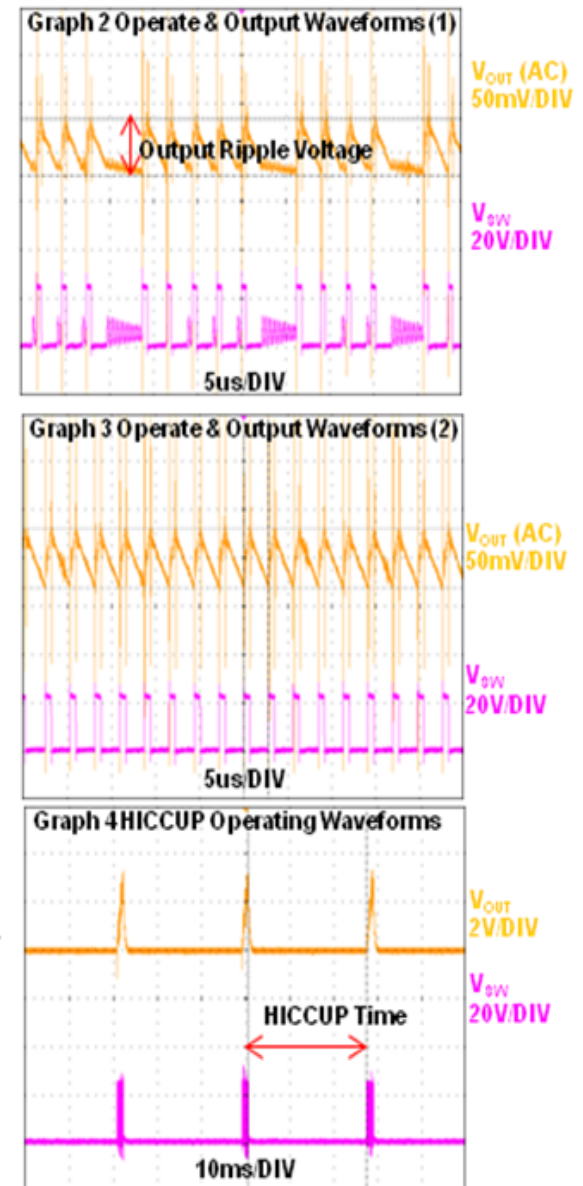


3. Operate & Output Waveforms

- The layout is as shown in Figure 1: Test_setup1 and supply input voltage ($V_{IN} = 24V$).
- Ensure that the output ripple voltage and the switching frequency is within the specified value raise the current value of the electronic load. (Graph .2 & Graph .3)

4. HICCUP Operating Waveforms

- (OCP) makes the over-current limiter operation further up the current value of the electronic load.
- Measure the HICCUP time, to ensure that it is within the specified value.





5. Load Transient Response

- The load current (I_{OUT}) is increased by pulse (1A \leftrightarrow 3A) using the electric load.
Setting Slew Rate = 100 μ s
- Measure the waveform of output ripple voltage ($V_{OUT(AC)}$) when the load is changed. (Graph 5~ 7)
- Ensure that the variation of the output voltage is within the specified value.
Probe to measure $V_{OUT(AC)}$ connect as short as possible.

