1 Efficiency

The following graphs show the efficiency and input current versus primary load current. The 3.3V isolated load was kept at a fixed resistance while the 3.3V primary load was varied. The measurements are taken with a 10 V and 24 V input.
Input Current vs Primary Load Current

- $V_{in} = 10 \text{ V}$, $i_{iso} = 1 \text{ mA}$
- $V_{in} = 10 \text{ V}$, $i_{iso} = 2 \text{ mA}$
- $V_{in} = 10 \text{ V}$, $i_{iso} = 5 \text{ mA}$
- $V_{in} = 24 \text{ V}$, $i_{iso} = 1 \text{ mA}$
- $V_{in} = 24 \text{ V}$, $i_{iso} = 2 \text{ mA}$
- $V_{in} = 24 \text{ V}$, $i_{iso} = 5 \text{ mA}$
2 Regulation

The following graphs show the load regulation for both outputs. The 3.3V isolated load was kept at a fixed resistance while the 3.3V primary load was varied. The measurements are taken with a 10 V and 24 V input.
3 Minimum Primary Load

In this topology a minimum primary load is required to regulate the isolated output. The following graphs show the minimum primary load required to bring the isolated output within 1% of 3.3V with varying input voltage. At each input voltage the 3.3V isolated load was kept at a fixed resistance while the 3.3V primary load was increased.

![Graph 1: Minimum Primary Load for Regulated Viso vs Vin](image1)

![Graph 2: Minimum Primary Load for Regulated Viso vs Vin](image2)
4 Startup

The following images show the startup waveform at max load with Vin = 10V and Vin = 24V. Startup is tested by turning on the Vin voltage supply.

(Channel 1 = VIN at TP1, Channel 2 = VOUT at TP6, Channel 3 = VISO at TP3, Channel 4 = IN pin of LDO)
5 Shutdown

The following images show the shutdown waveform at max load with Vin = 10V and Vin = 24V. Shutdown is tested by turning off the VIN voltage supply.

(Channel 1 = VIN at TP1, Channel 2 = VOUT at TP6, Channel 3 = VISO at TP3, Channel 4 = IN pin of LDO)
6  Switching Node and Output Ripple

The following images show the output voltage ripple at max load with Vin = 10 V and Vin = 24 V.
(Channel 1 = Switching Node PH, Channel 2 = VOUT AC coupled at TP6)
7 Isolated Output Ripple and LDO IN ripple

The following images show the isolated output ripple at max load with \( \text{Vin} = 10 \, \text{V} \) and \( \text{Vin} = 24 \, \text{V} \).
(Channel 3 = LDO IN pin AC coupled, Channel 2 = VISO at TP3 AC coupled)
8 Loop Response

The following images show the loop response at max load with $V_{\text{in}} = 10$ V and $V_{\text{in}} = 24$ V.
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