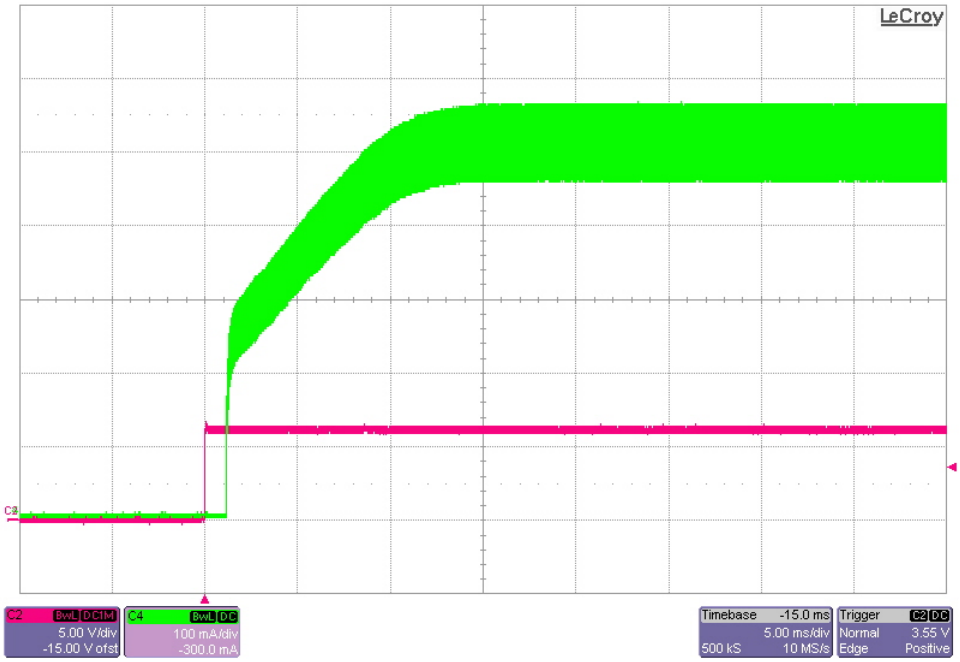
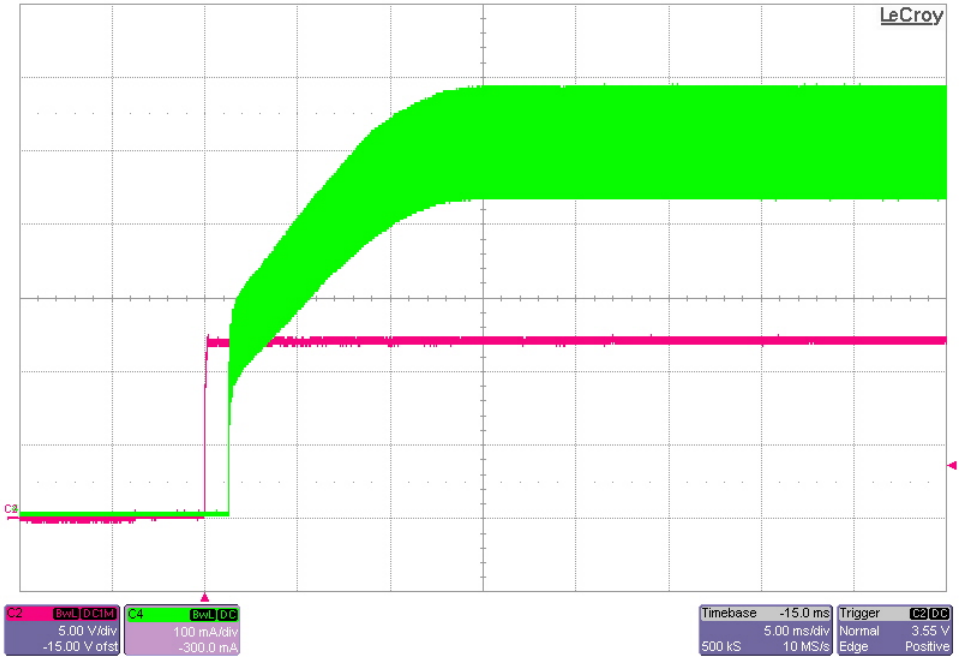
1 Startup

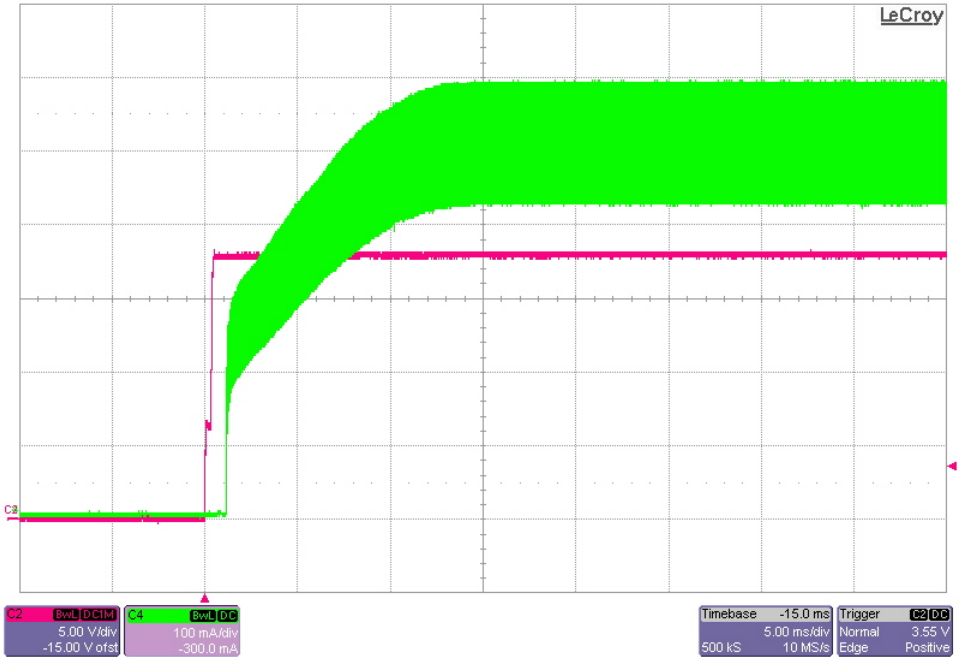
The LED current (GREEN) startup waveform is shown after the input voltage (RED) is applied. The input voltage was set to 6V and the LED current is 0.5A. (5V/DIV, 100mA/DIV, 5mS/DIV)



The LED current (GREEN) startup waveform is shown after the input voltage (RED) is applied. The input voltage was set to 12V and the LED current is 0.5A. (5V/DIV, 100mA/DIV, 5mS/DIV)

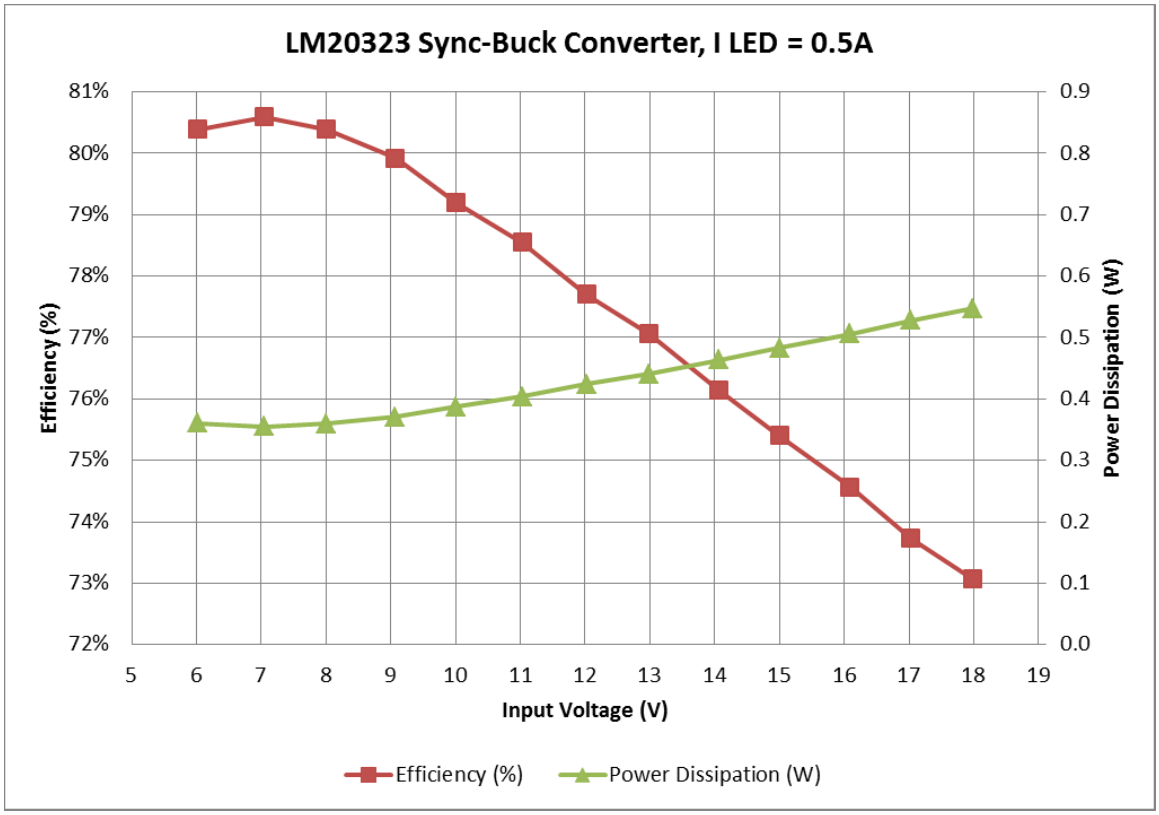


The LED current (GREEN) startup waveform is shown after the input voltage (RED) is applied. The input voltage was set to 18V and the LED current is 0.5A. (5V/DIV, 100mA/DIV, 5mS/DIV)



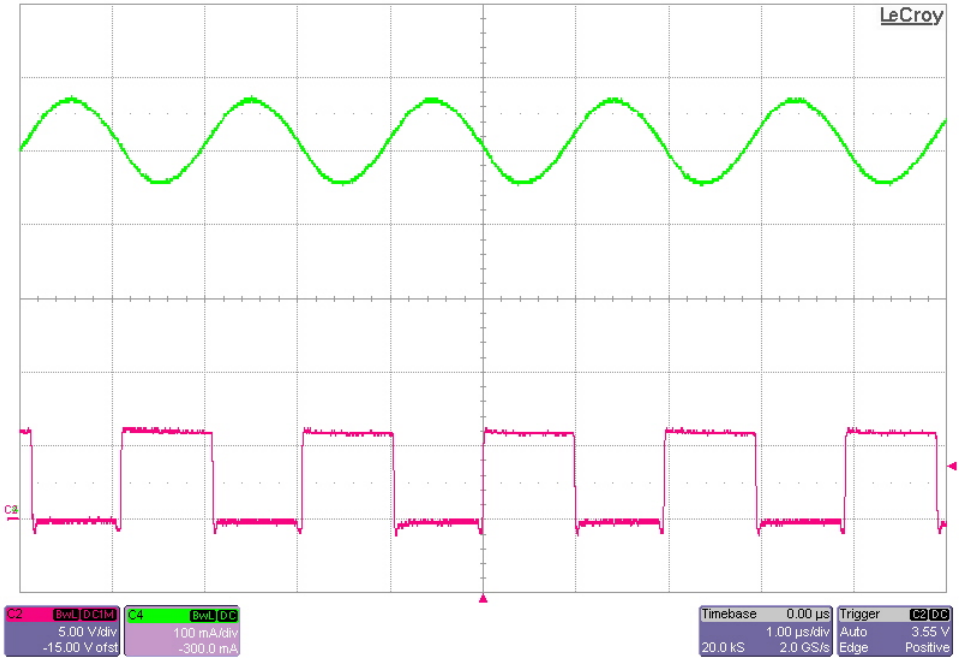
2 Efficiency

The converter efficiency is shown in the figures below for a fixed LED current of 0.5A.

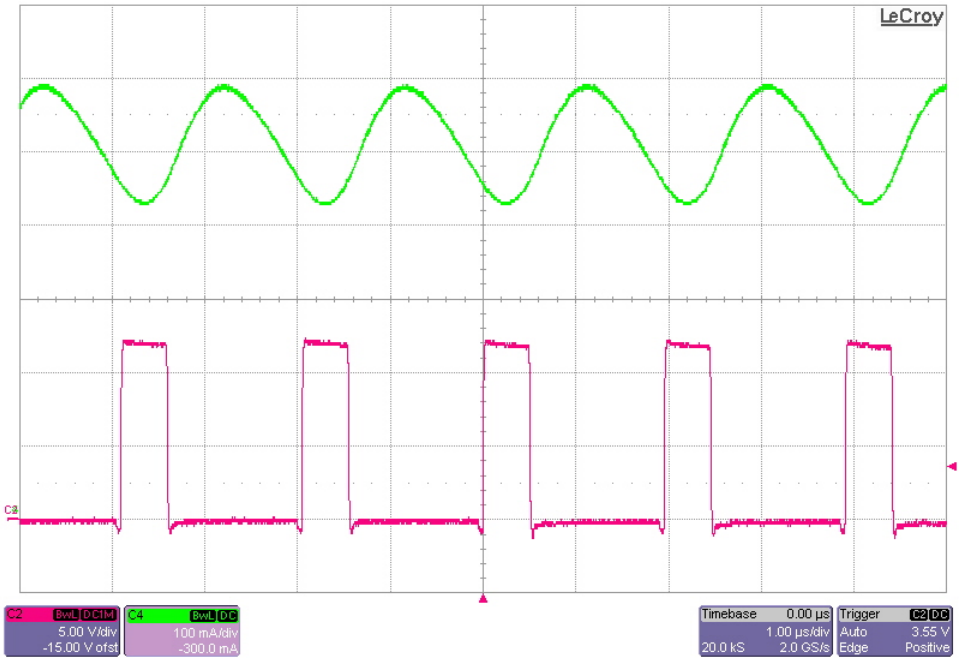


3 Switch Node Waveforms

The waveforms below show the switch node voltage (RED) at TP2 and the LED current (GREEN). The input voltage is 6V and the LED output is regulated to 0.5A. (5V/DIV, 100mA/DIV, 1uS/DIV)

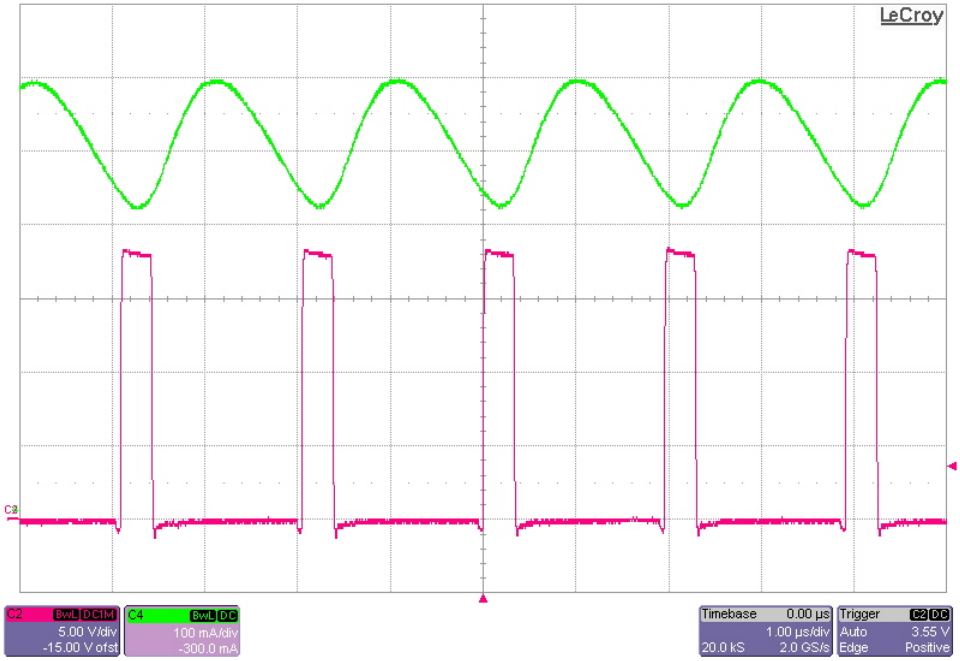


The waveforms below show the switch node voltage (RED) at TP2 and the LED current (GREEN). The input voltage is 12V and the LED output is regulated to 0.5A. (5V/DIV, 100mA/DIV, 1uS/DIV)



PMP10487 REVD Test Results

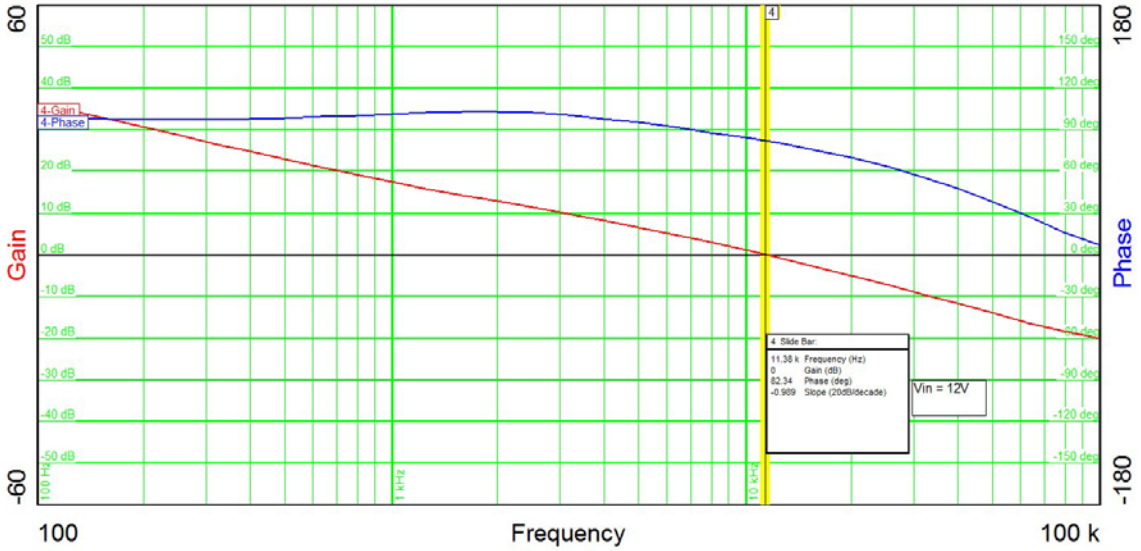
The waveforms below show the switch node voltage (RED) at TP2 and the LED current (GREEN). The input voltage is 18V and the LED output is regulated to 0.5A. (5V/DIV, 100mA/DIV, 1uS/DIV)



4 Control Loop Gain / Stability

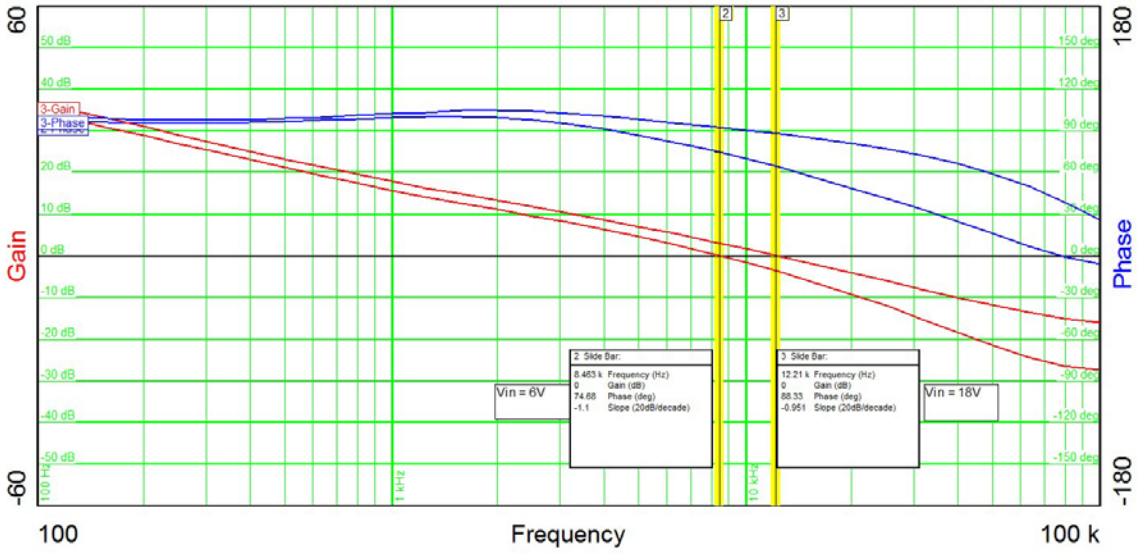
The plot below shows the converter's gain and phase margin for an LED current of 0.5A.

Vin = 12V Band Width = 11.4KHz Phase Margin = 82 degrees



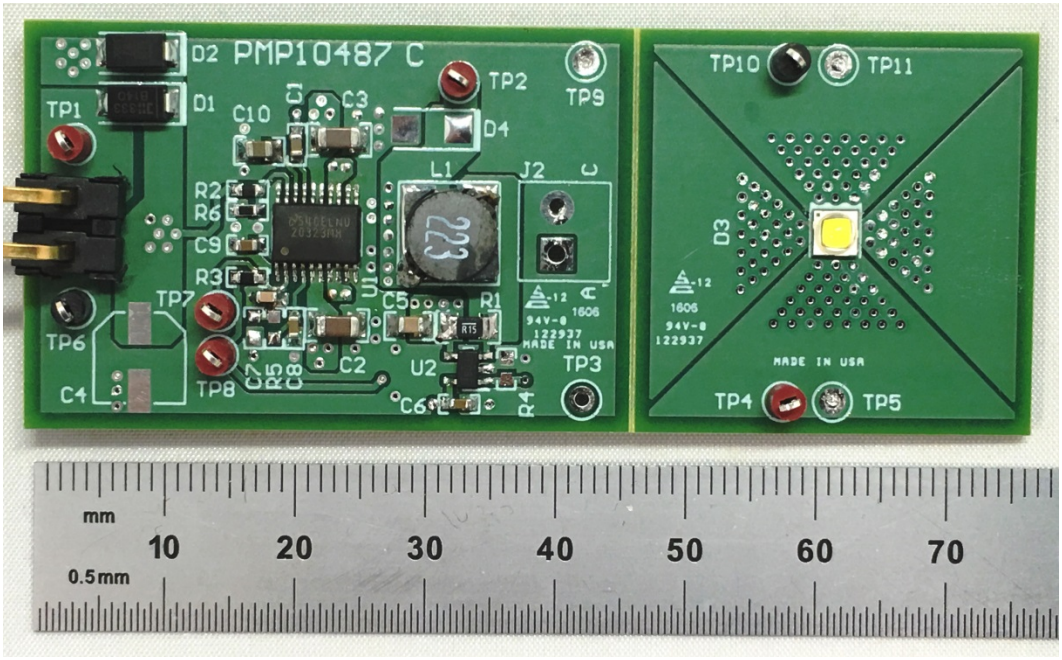
The plot below shows the converter's gain and phase margin for an LED current of 0.5A.

Vin = 6V Band Width = 8.46KHz Phase Margin = 75 degrees
Vin = 18V Band Width = 12.2KHz Phase Margin = 88 degrees



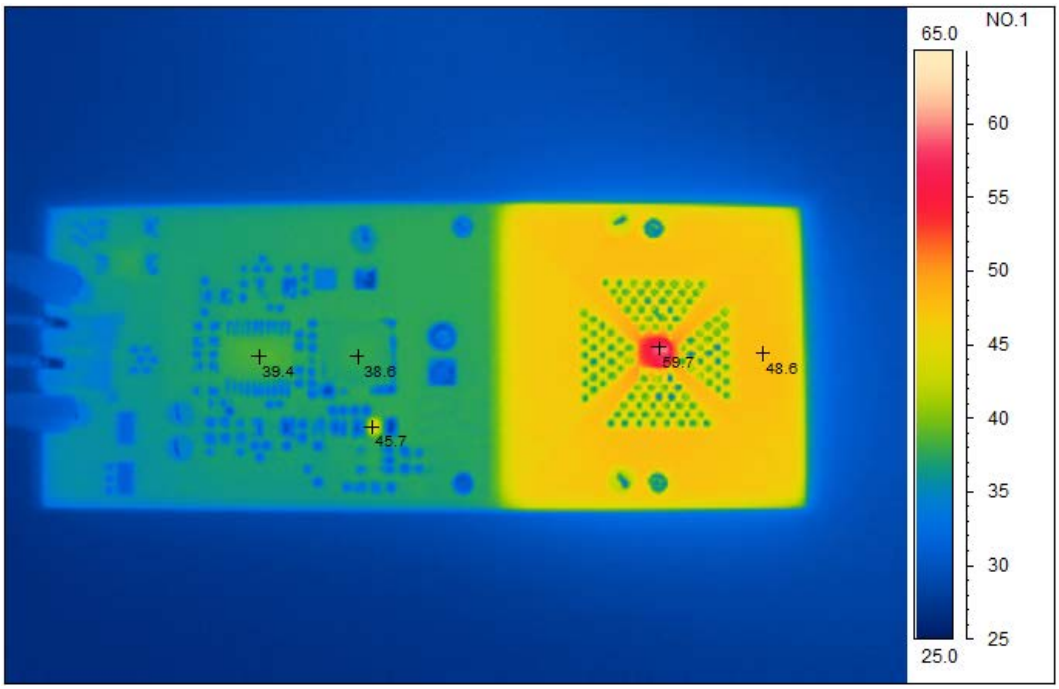
5 Photo

The photo below shows the PMP10487 REVD assy built on the REVC PWB.



6 Thermal Image

The thermal image below shows operation at 12Vin with an LED current of 0.5A, with no airflow.



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