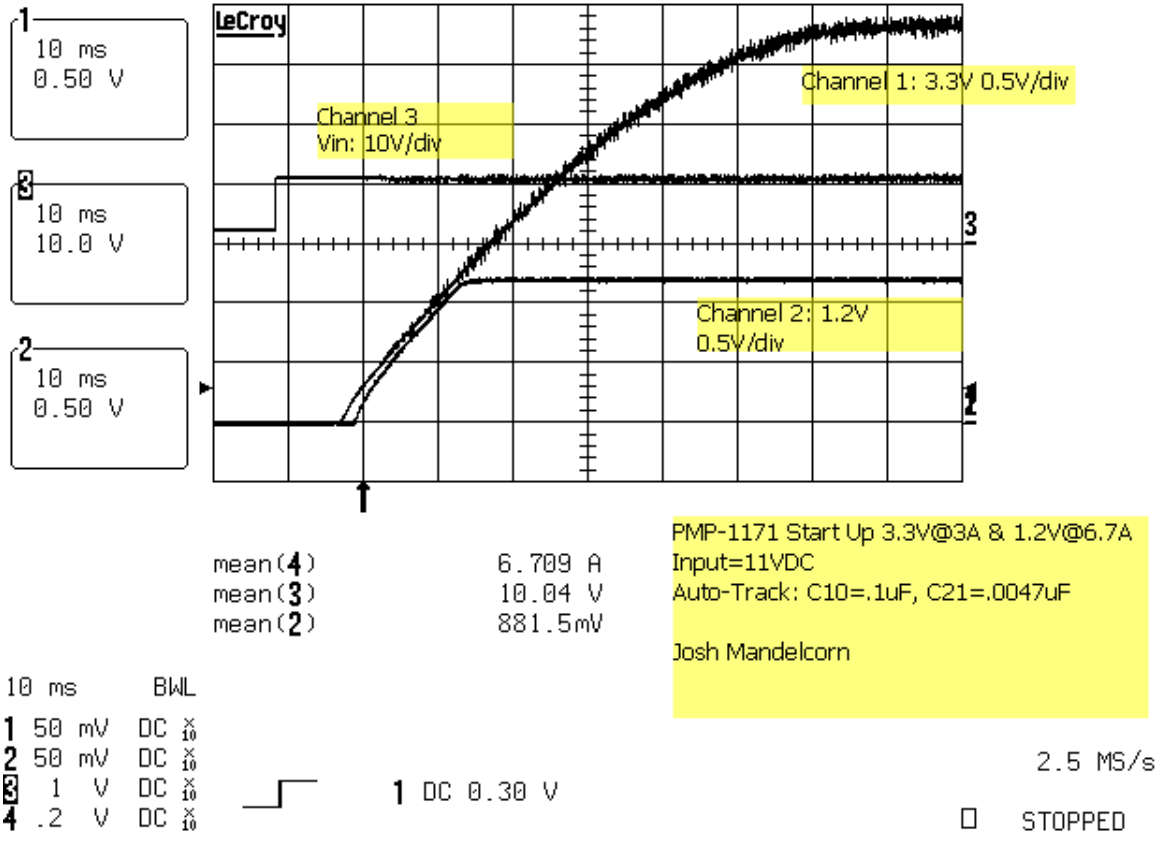


1 Startup

The startup waveform is shown in the figure below. The input voltage was set at 11 VDC, with full loads on the 3.3V and 1.2A channels. Auto-tracking of start up is being evaluated.

11-Jan-05
 14:01:14



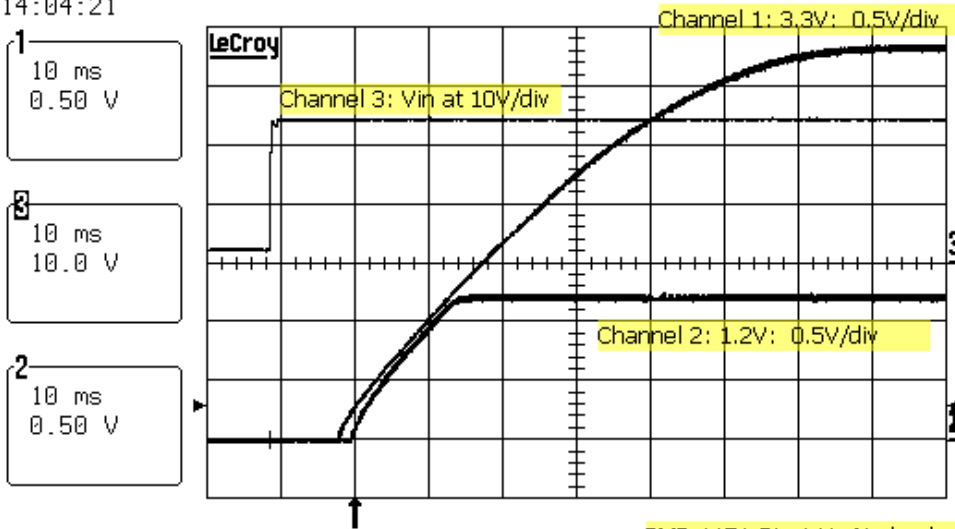
Qq

Jan 11, 2005
PMP1171 3.3V&1.2V Test Results



Start up (cont.): Same as above, but with 24VDC input and no load on either 3.3V or 1.2V outputs:

Qq
11-Jan-05
14:04:21



mean(4) -43 mA
mean(3) 22.20 V
mean(2) 877.8 mV

PMP-1171 Start-Up No loads off 3.3V & 1.2V
Input = 24VDC
Auto-tracking: C10=0.1uF, C21=4700pF

10 ms BWL
1 50 mV DC $\times \frac{10}{10}$
2 50 mV DC $\times \frac{10}{10}$
3 1 V DC $\times \frac{10}{10}$
4 .2 V DC $\times \frac{10}{10}$

1 DC 0.30 V

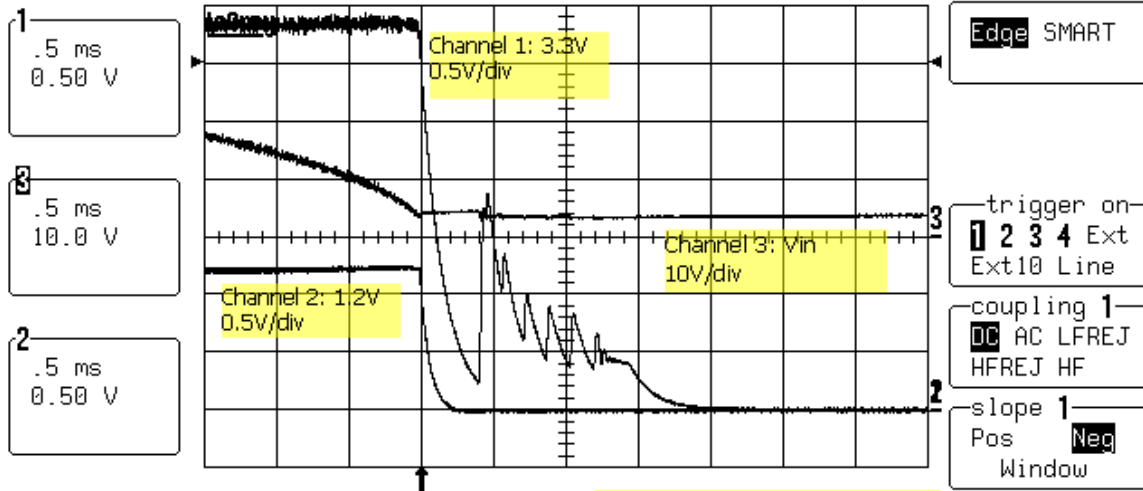
2.5 MS/s

STOPPED

Q
q

Shutdown: No low input inhibit yet:
 11-Jan-05
 14:09:25

TRIGGER SETUP



mean(4) 3.272 A
 mean(3) 6.04 V
 mean(2) 370.7mV

PMP-1171: Shutdown at Full load
 Vin=24VDC; 3.3V@3A and
 1.2V@6.7A
 3.3V bounces up and down when
 input drops to about 4 volts
 Adding a low input shutdown
 should help

holdoff - - -
 OFF Time Evts

.5 ms BWL

1	50 mV	DC	\times
2	50 mV	DC	\times
3	1 V	DC	\times
4	.2 V	DC	\times

Qq

1 DC 3.03 V

50 MS/s

STOPPED

3 Hold up / turn on delay

Hold up from 180 VAC at full 12V 3A load:

Qq

Turn on delay at 180 VAC and full load:

4 Output Ripple:

Output Ripple Voltage 12V at 3 amps Full Load 375VDC input:

qq

Output Ripple at 230VAC input and full load:

Qq

5 Output Transients

Load Transients

The figures below show the response of PMP1143 to load transients.

12V channel:

Load step 50% to 100%, 375 VDC in:

Qq

12V channel:
Load step 100% to 50%, 375 VDC in:

Qq

Jan 11, 2005

PMP1171 3.3V&1.2V Test Results



12V output:
Load step 0% to 100%, 375 VDC in:

Qq

12V output:
Load step 0% to 100%, 200 VDC in:

Qq

12V Load step 100% to 0%: 375VDC in:

Qq

Jan 11, 2005

PMP1171 3.3V&1.2V Test Results



6 Main Internal Waveforms:

Q2 main switch drain at full load and 375VDC input:

Switching frequency = 100kHz

Note: 160 volts of inductive spike due to excessive leakage inductance in main transformer,

But transistor within 800 V rating

Qq

Same waveform Q2 drain, but at output short circuit:

Do not apply short circuit for more than a few seconds or output diode D5 will overheat with present main transformer (G034225 rev1)

Qq

Output diode voltage at high line full load:

qq

Jan 11, 2005

PMP1171 3.3V&1.2V Test Results



7 Short Circuit:

Shown at high line 375VDC for worst case. At 200VDC short circuit current is 20 amps.vs. 22+ amps at 375VDC input.

Note: Main transformer will need to be designed with less leakage inductance to allow short circuit "burping" off to protect output diode D5 from overheating if short circuit is applied for more than a few seconds.

Qq

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