

AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

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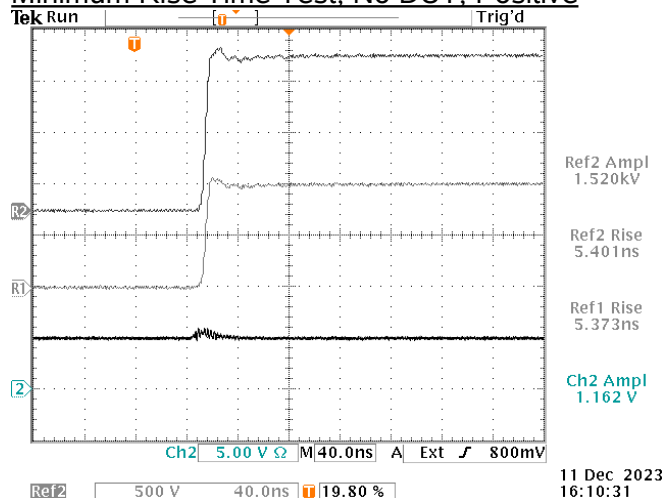
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BOX 5120, LCD MERIVALE
OTTAWA, CANADA K2C3H5

PERFORMANCE CHECKSHEET

Model: AVRQ-5-B-AHV-FPD-HF-AC03-ATA3
Type: Common Mode Transient Immunity (CMTI) Test for Opto-Couplers
S.N.: 14396
Date: December 12, 2023

Minimum Rise Time Test, No DUT, Positive



a) Output Signal Amplitude: ± 1 to ± 1.5 kV

b) Rise Time (10%-90%): < 10 to > 50 ns

c) PRF: 1 Hz - 100 Hz

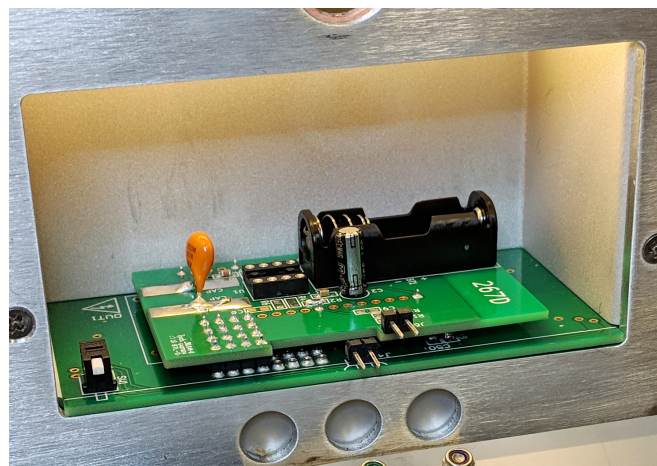
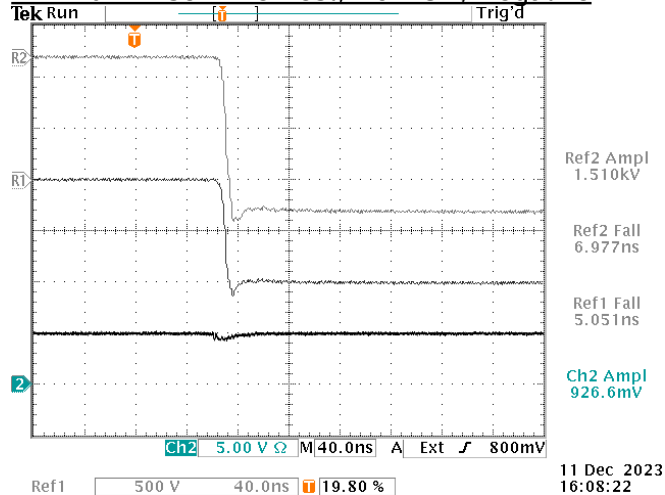
d) Jitter, Stability: OK

e) Prime Power: 100-240V AC, 50-60 Hz.

Top = +1.5 and +1.0 kV HV out (stored - with signal disconnected before recording logic waveform).

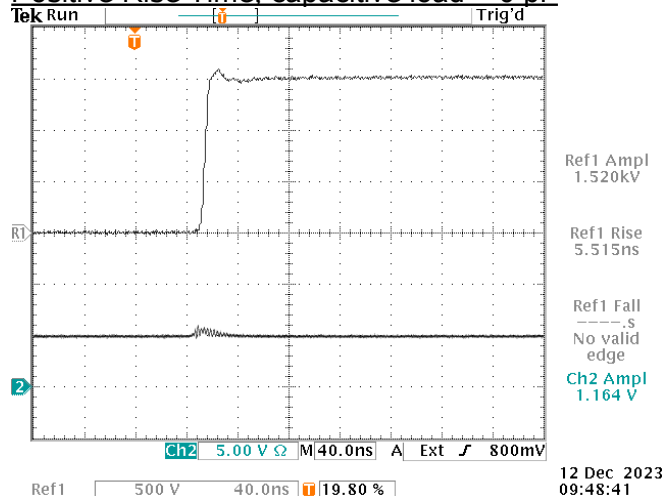
Bottom = Logic "A" out for +1.5 kV, VCC2 = +5V, using P6246, and no DUT, R2 = 1 k Ω . (This shows the parasitic capacitive coupling onto the Logic "A" out.)

Minimum Rise Time Test, No DUT, Negative

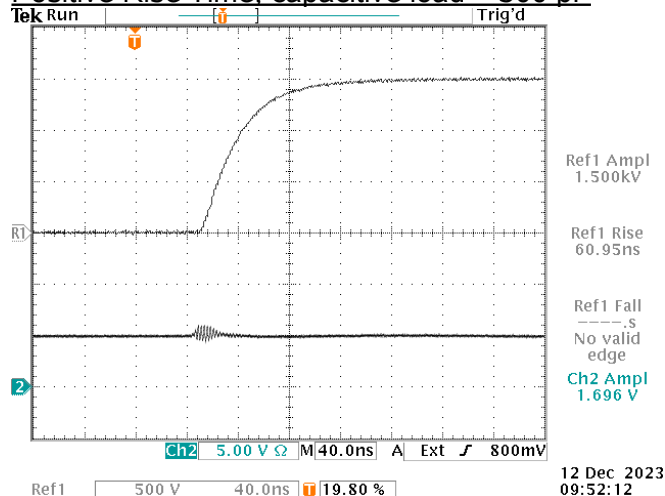


Daughterboard installed
in positive position (with no DUT IC)

Positive Rise Time, capacitive load = 0 pF

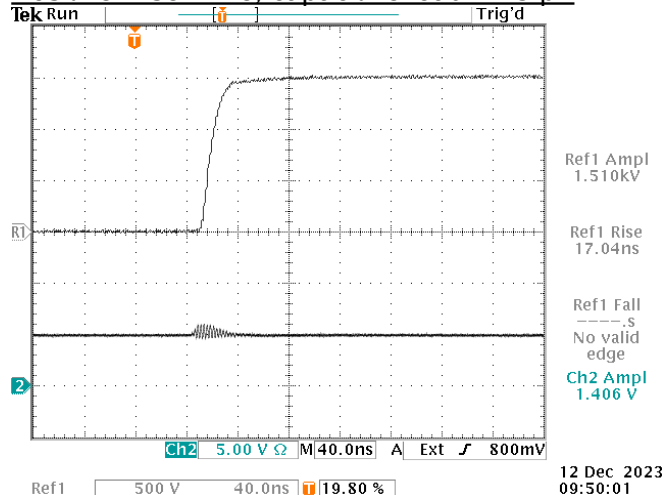


Positive Rise Time, capacitive load = 300 pF

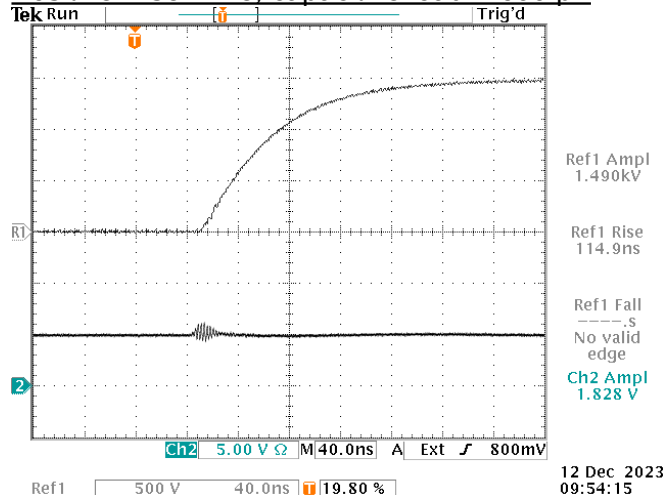


Top = HV out (stored - with signal disconnected before recording logic waveform)
 Bottom = Logic "A" out, VCC2 = +5V, using P6246 probe, and no DUT, R2 = 1 k Ω

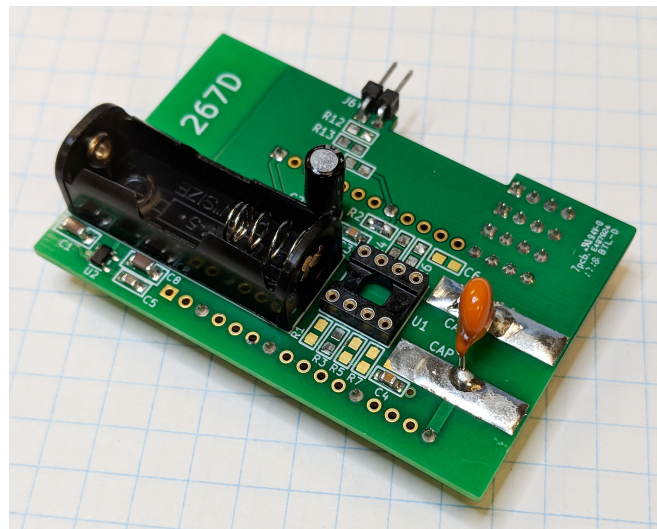
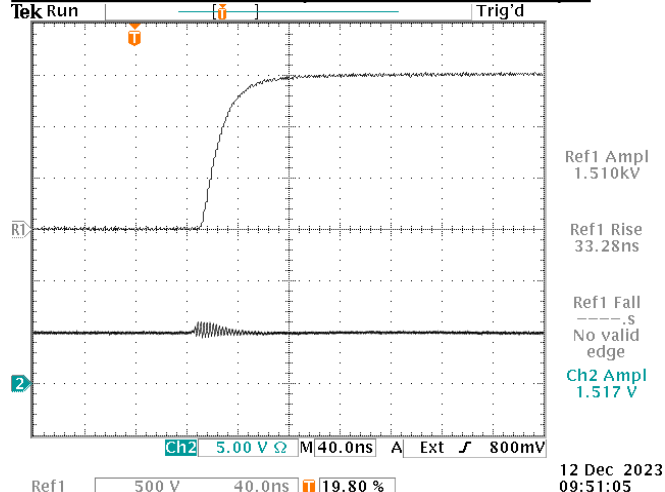
Positive Rise Time, capacitive load = 75 pF



Positive Rise Time, capacitive load = 600 pF

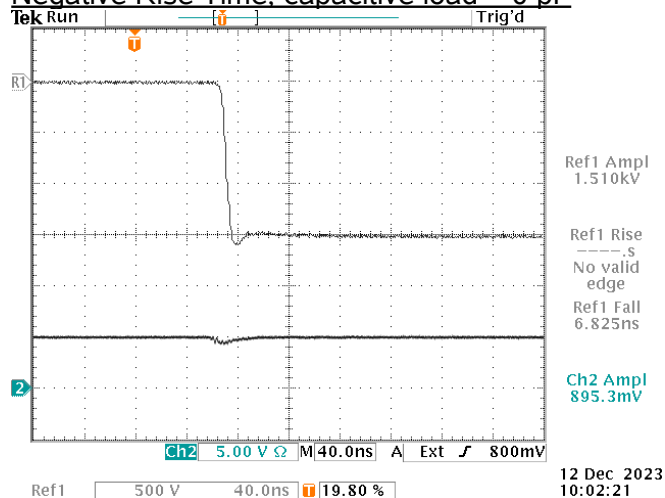


Positive Rise Time, capacitive load = 150 pF

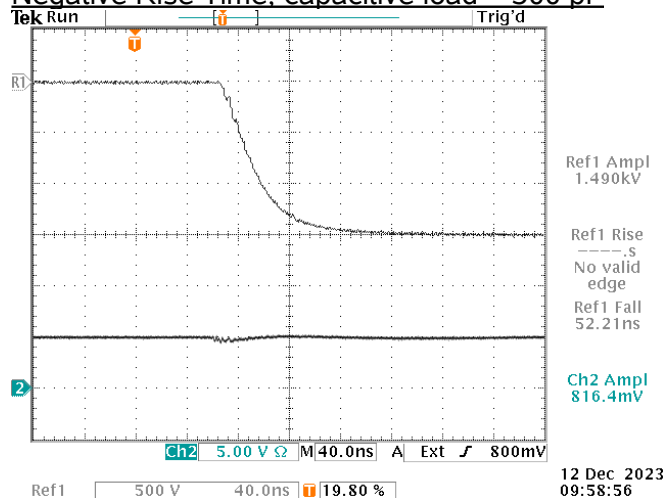


150 pF capacitor (orange) on daughterboard

Negative Rise Time, capacitive load = 0 pF

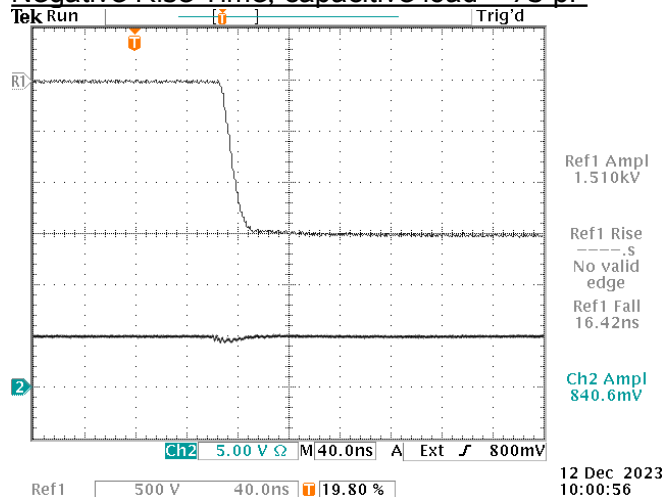


Negative Rise Time, capacitive load = 300 pF

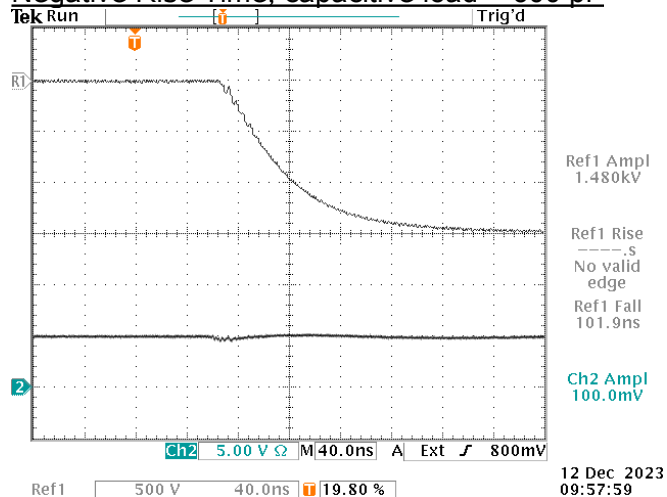


Top = HV out (stored - with signal disconnected before recording logic waveform)
 Bottom = Logic "A" out, VCC2 = +5V, using P6246 probe, and no DUT, R2 = 1 kΩ

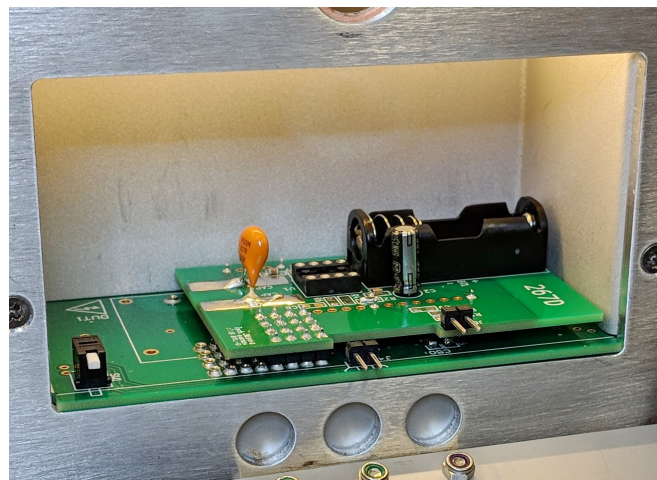
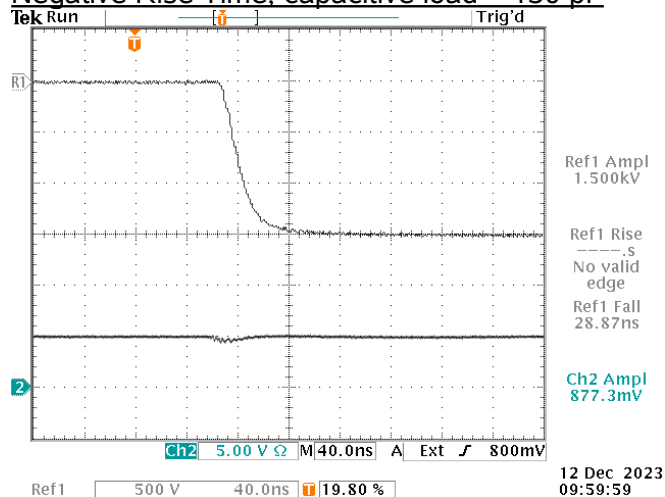
Negative Rise Time, capacitive load = 75 pF



Negative Rise Time, capacitive load = 600 pF

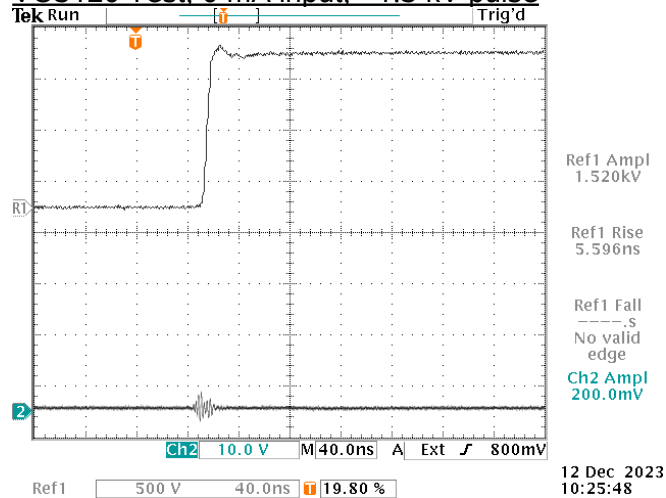


Negative Rise Time, capacitive load = 150 pF

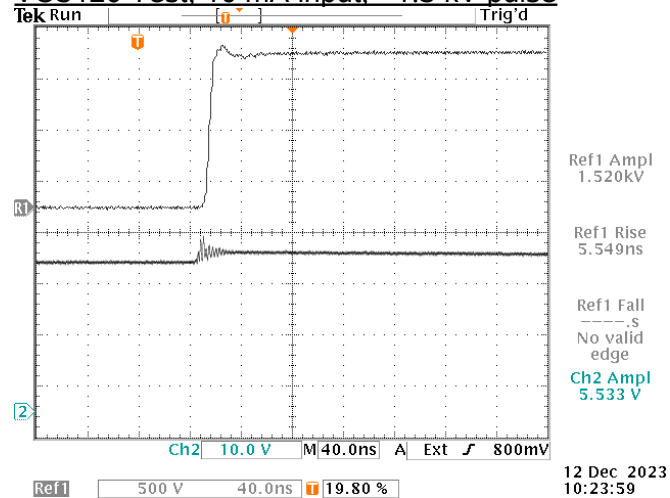


Daughterboard installed in negative position (with no DUT IC)

VO3120 Test, 0 mA input, +1.5 kV pulse

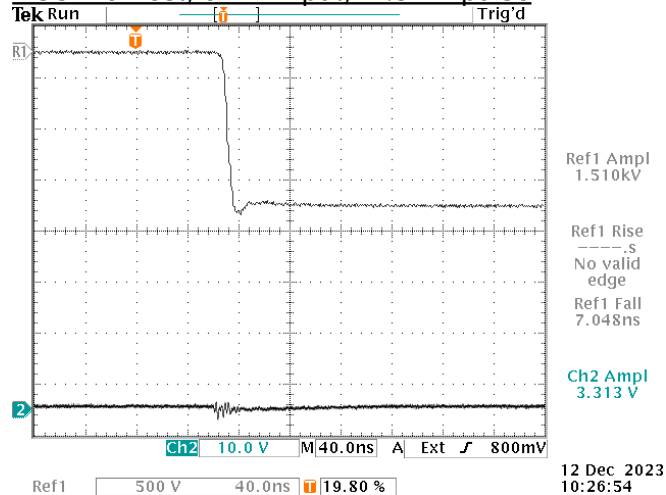


VO3120 Test, 10 mA input, +1.5 kV pulse

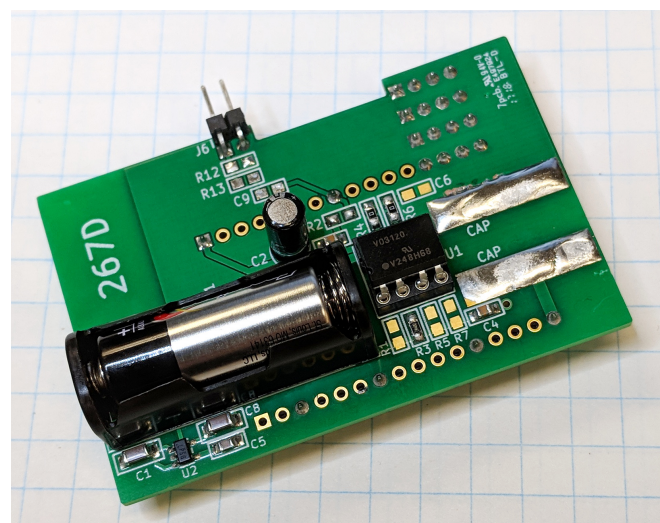
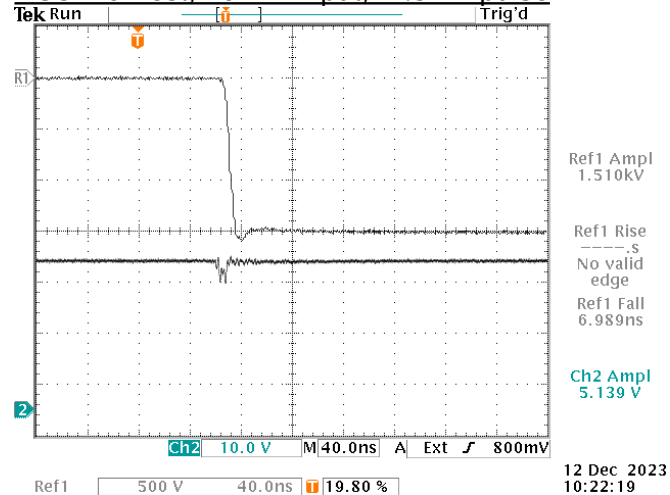


Top = HV out (stored - with signal disconnected before recording logic waveform)
Bot = Logic "A" out, +32V VCC2. P6139A probe.

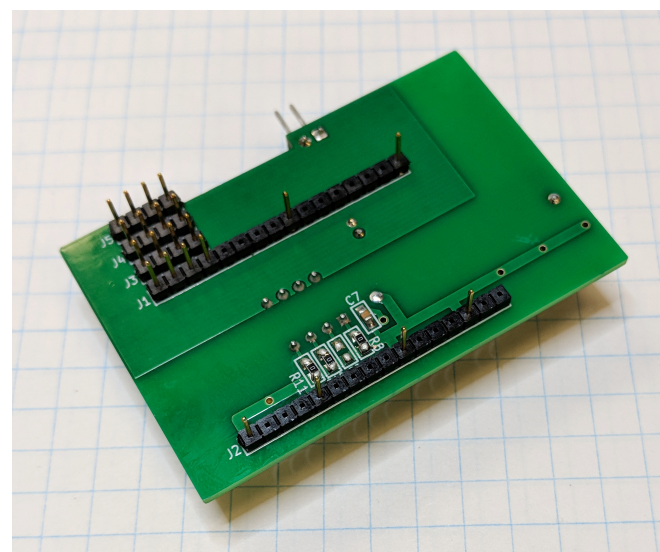
VO3120 Test, 0 mA input, -1.5 kV pulse



VO3120 Test, 10 mA input, -1.5 kV pulse

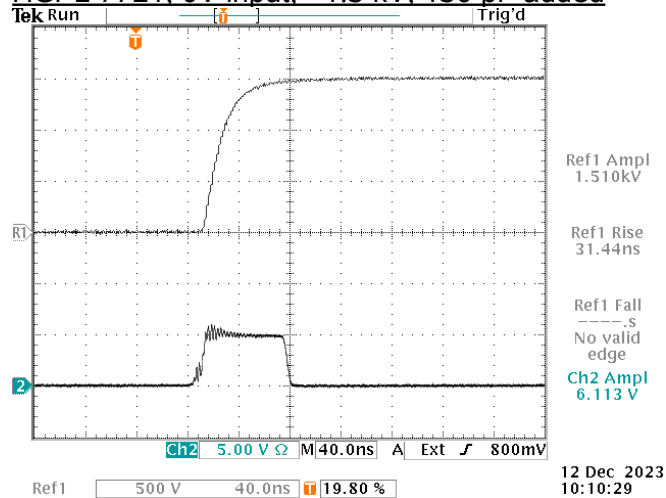


Top side of daughterboard with VO3120 configured for 10 mA bias.

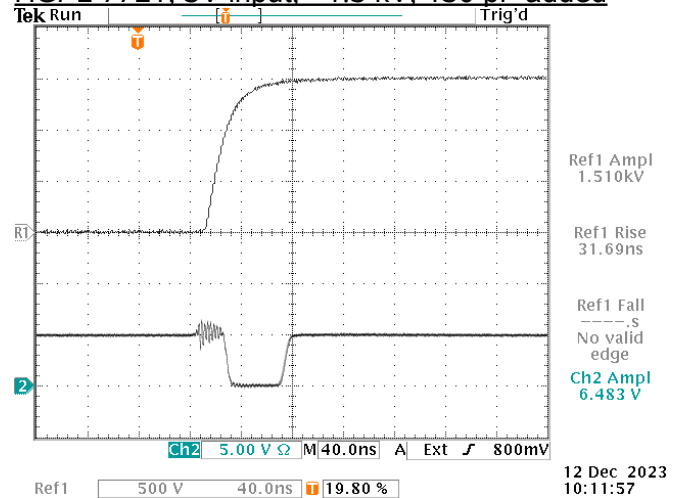


Bottom side of daughterboard with VO3120 configured for 10 mA bias.

HCPL-7721, 0V input, +1.5 kV, 150 pF added



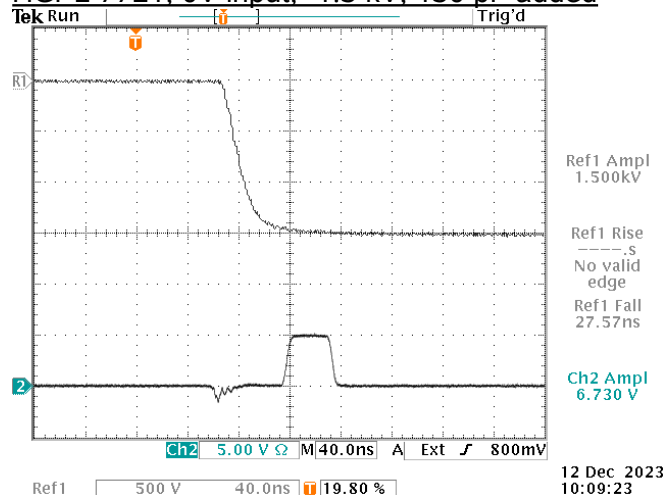
HCPL-7721, 5V input, +1.5 kV, 150 pF added



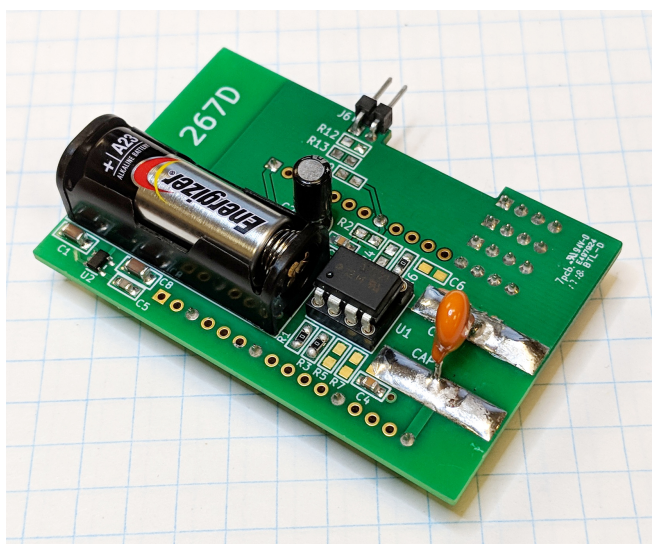
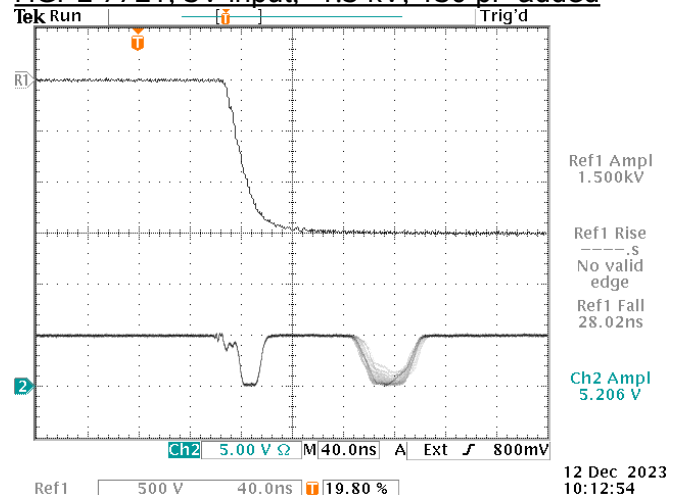
Top = high voltage pulse (stored - with signal disconnected before recording logic waveform).

Bot = Logic "A" out (with 0V input) using P6246.

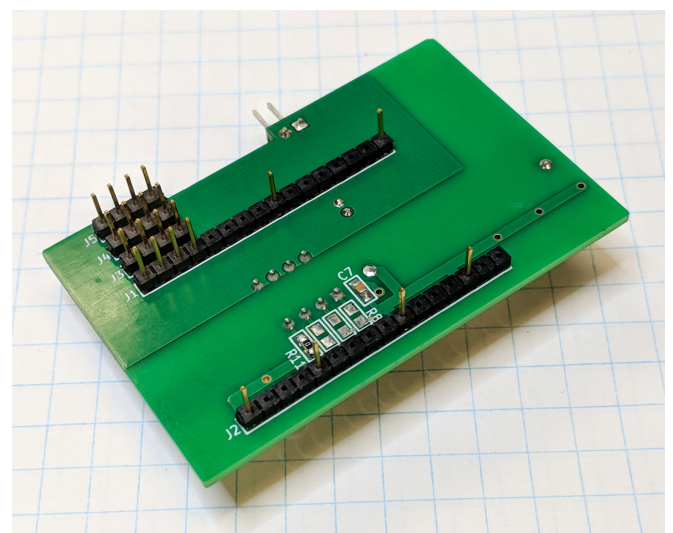
HCPL-7721, 0V input, -1.5 kV, 150 pF added



HCPL-7721, 5V input, -1.5 kV, 150 pF added



Top side of daughterboard with HCPL-7721 configured for 5V bias.



Bottom side of daughterboard with HCPL-7721 configured for 5V bias.