AVTECH ELECTROSYSTEMS LTD.
NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

P.O. BOX 265
OGDENSBURG, NY
U.S.A. 13669-0265

TEL: 888-670-8729 (USA & Canada) or +1-613-686-6675 (Intl)
FAX: 800-561-1970 (USA & Canada) or +1-613-686-6679 (Intl)

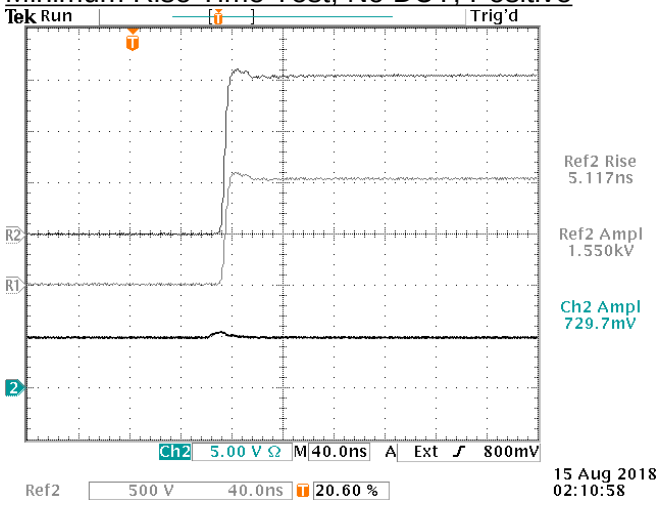
info@avtechpulse.com - http://www.avtechpulse.com/

BOX 5120, LCD MERIVALE
OTTAWA, ONTARIO
CANADA K2C 3H5

PERFORMANCE CHECKSHEET

Model: AVRQ-5-B-AHV-FPD-AC02-ATA3
Type: Common Mode Transient Immunity (CMTI) Test for Opto-Couplers
S.N.: 13560 (upgrade)
Date: August 16, 2018

Minimum Rise Time Test, No DUT, Positive



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 kΩ. (This shows the parasitic capacitive coupling onto the Logic "A" out.)

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

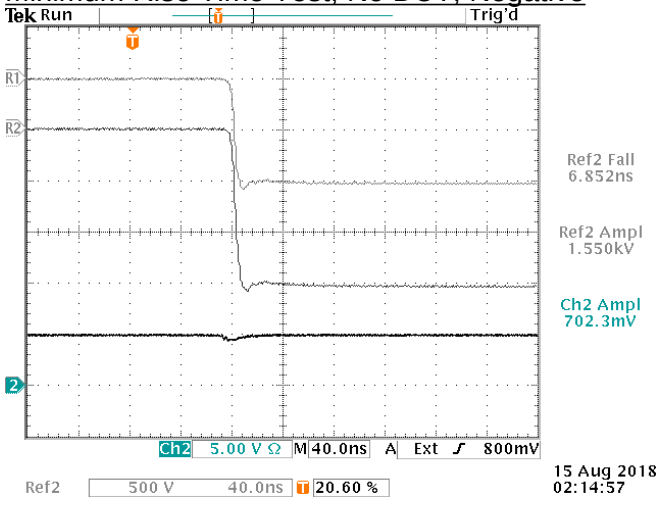
b) Rise Time (10%-90%): < 10 to > 50 ns

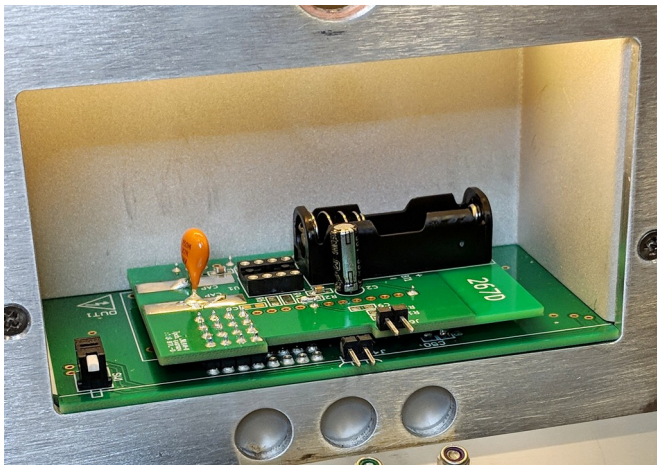
c) PRF: 1 Hz - 10 Hz

d) Jitter, Stability: OK

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

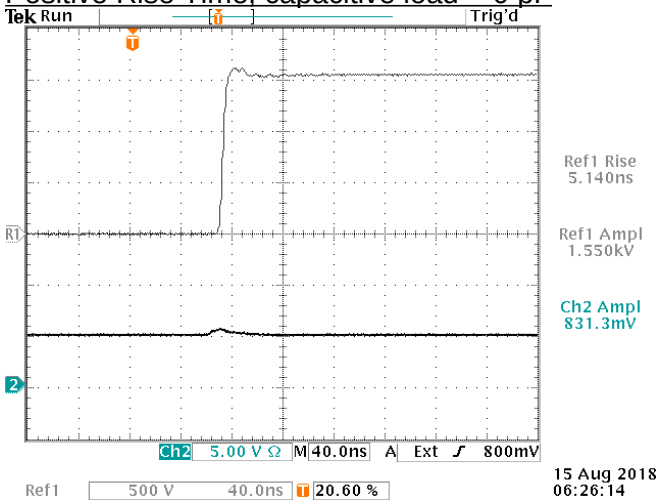
Minimum Rise Time Test, No DUT, Negative



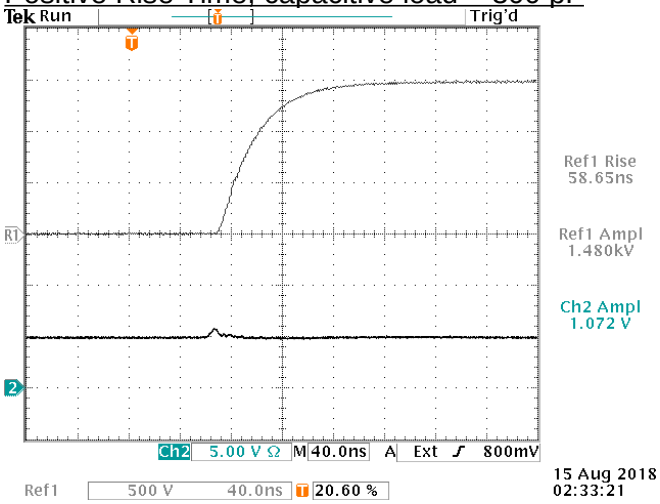


Daughterboard installed
in positive position (with no DUT IC)

Positive Rise Time, capacitive load = 0 pF

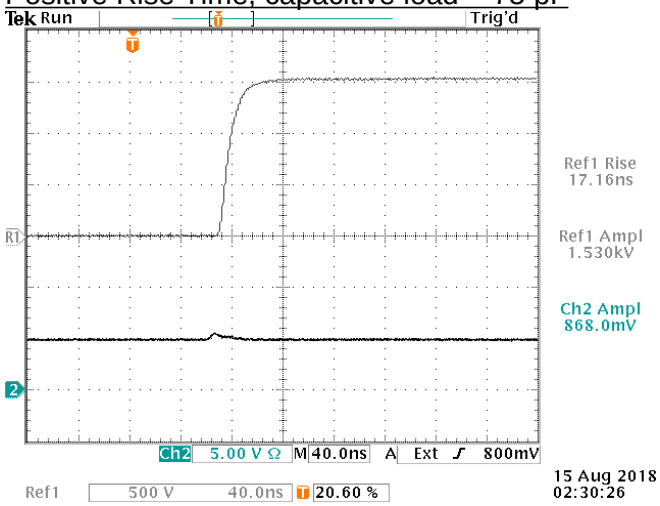


Positive Rise Time, capacitive load = 300 pF

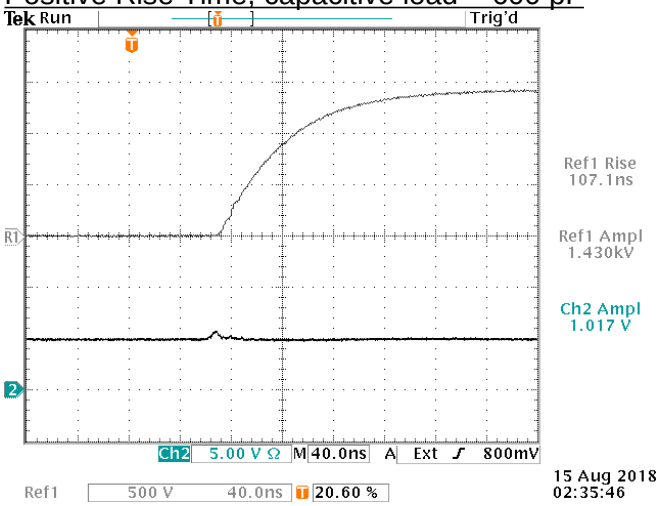


Top = HV out (stored - with signal disconnected before recording logic waveform)
Bottom = Logic “A” out, VCC2 = +5V, using P6246 probe, and no DUT, R2 = 1 kΩ

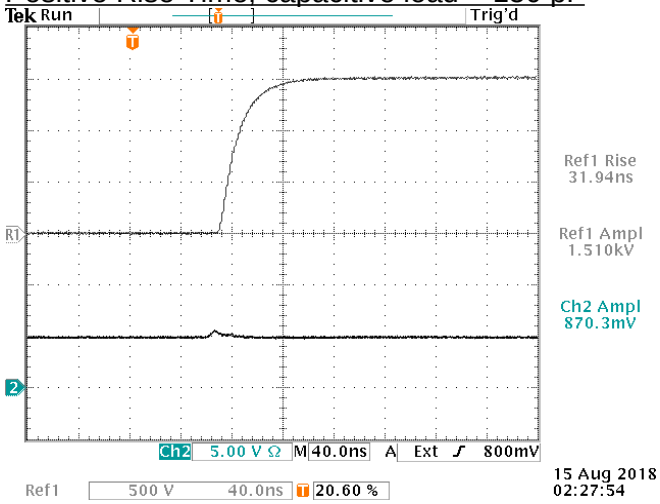
Positive Rise Time, capacitive load = 75 pF

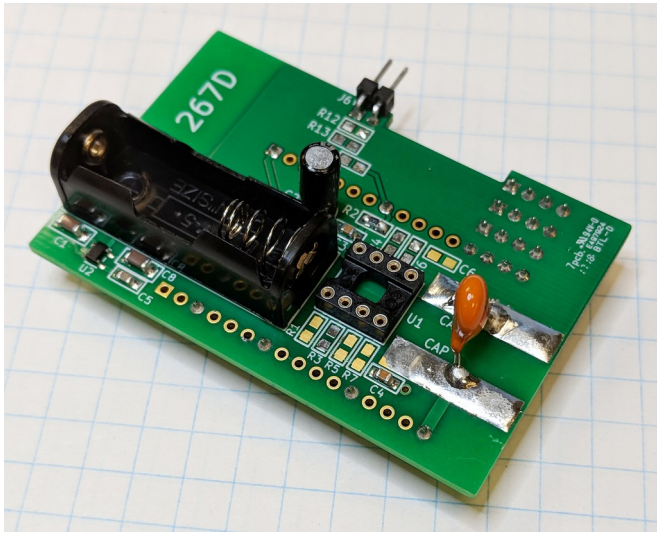


Positive Rise Time, capacitive load = 600 pF



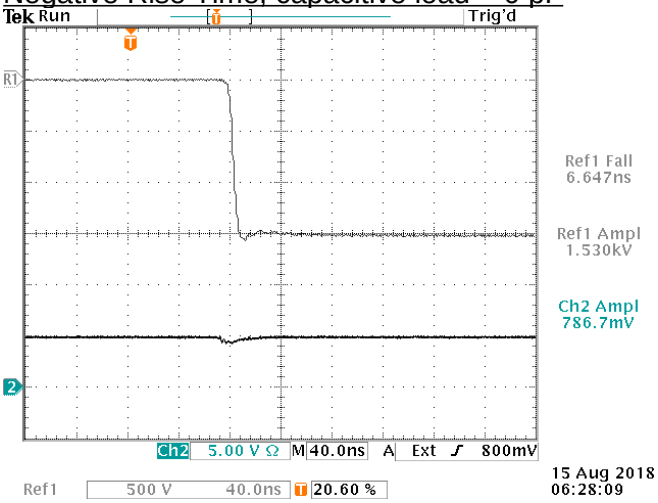
Positive Rise Time, capacitive load = 150 pF



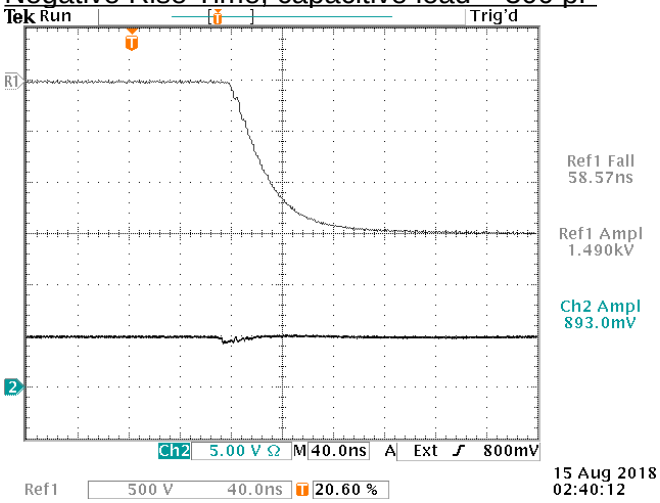


150 pF capacitor (orange) on daughterboard

Negative Rise Time, capacitive load = 0 pF

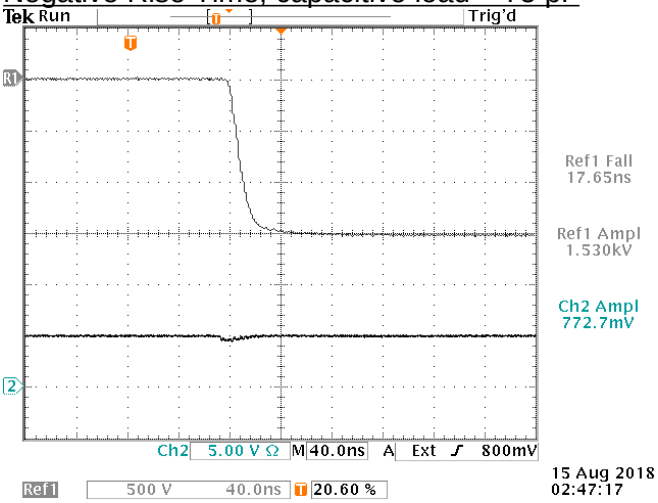


Negative Rise Time, capacitive load = 300 pF

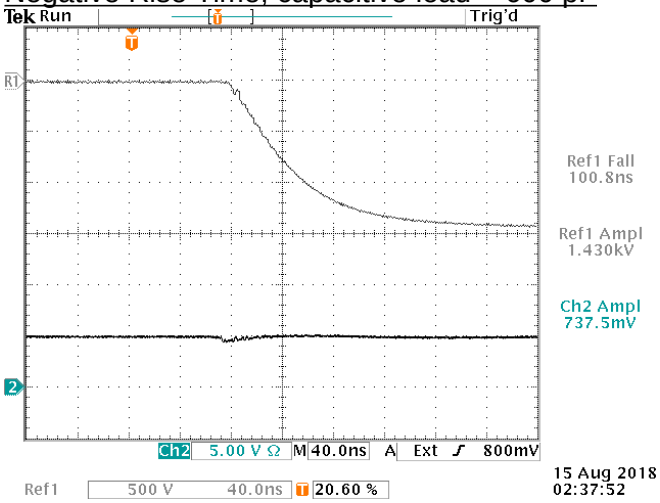


Top = HV out (stored - with signal disconnected before recording logic waveform)
Bottom = Logic “A” out, VCC2 = +5V, using P6246 probe, and no DUT, R2 = 1 kΩ

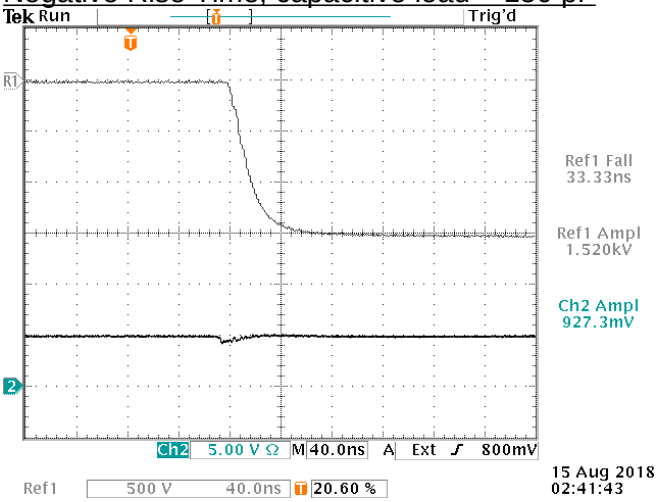
Negative Rise Time, capacitive load = 75 pF



Negative Rise Time, capacitive load = 600 pF

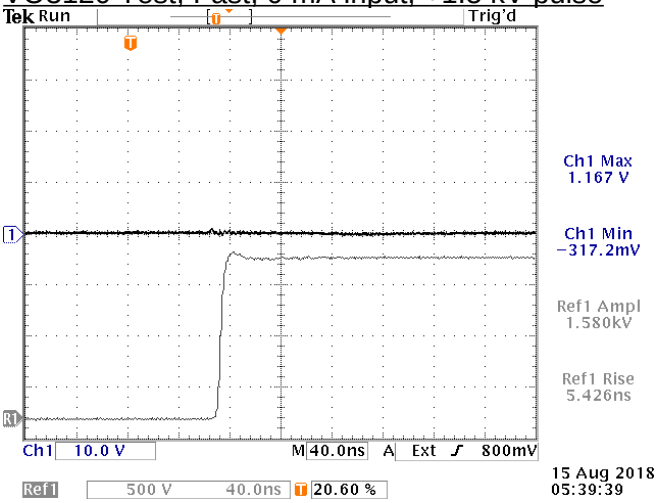


Negative Rise Time, capacitive load = 150 pF

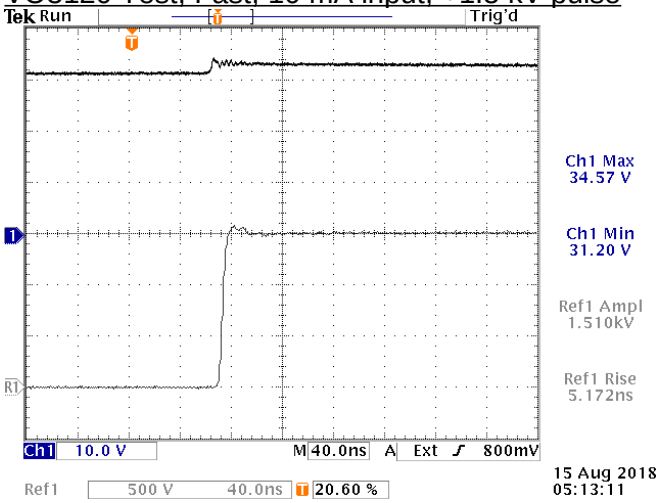


Daughterboard installed
in negative position (with no DUT IC)

VO3120 Test, Fast, 0 mA input, +1.5 kV pulse

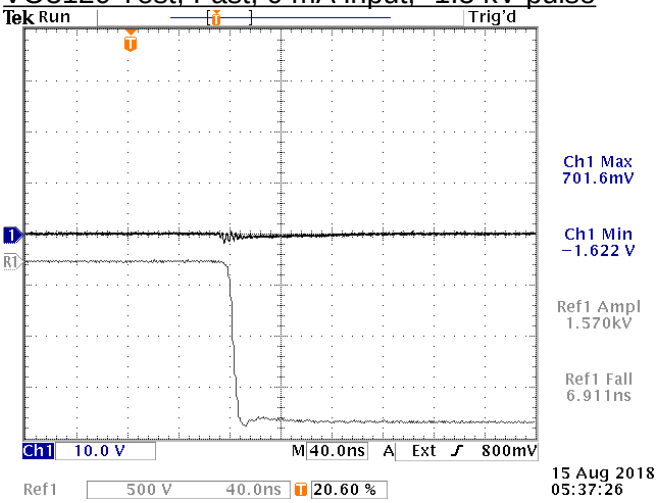


VO3120 Test, Fast, 10 mA input, +1.5 kV pulse

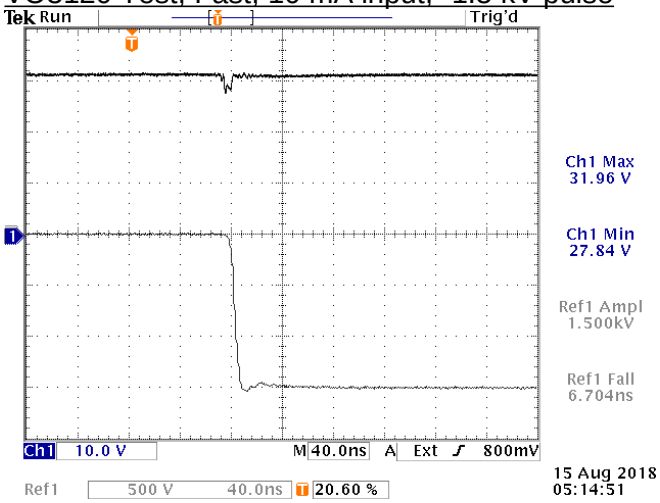


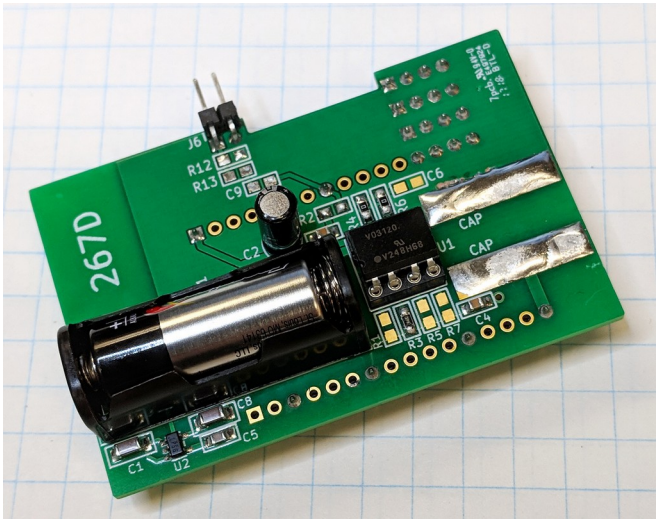
Top = Logic “A” out, +32V VCC2. P6139A probe.
Bottom = HV out (stored - with signal disconnected before recording logic waveform

VO3120 Test, Fast, 0 mA input, -1.5 kV pulse

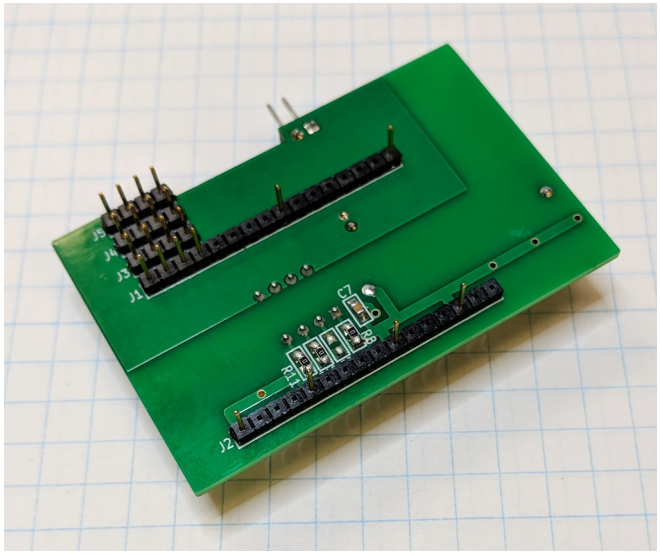


VO3120 Test, Fast, 10 mA input, -1.5 kV pulse



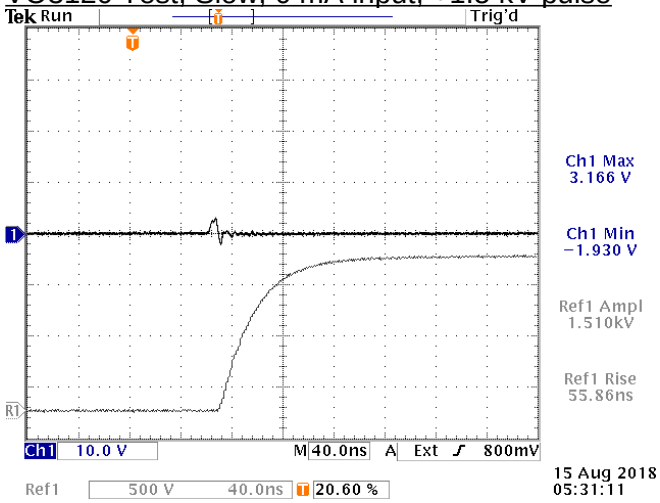


Top side of daughterboard with VO3120 configured for 10 mA bias.

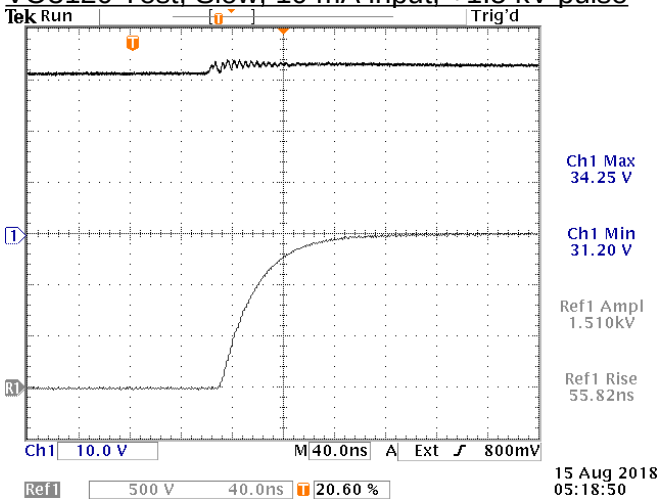


Bottom side of daughterboard with VO3120 configured for 10 mA bias.

VO3120 Test, Slow, 0 mA input, +1.5 kV pulse

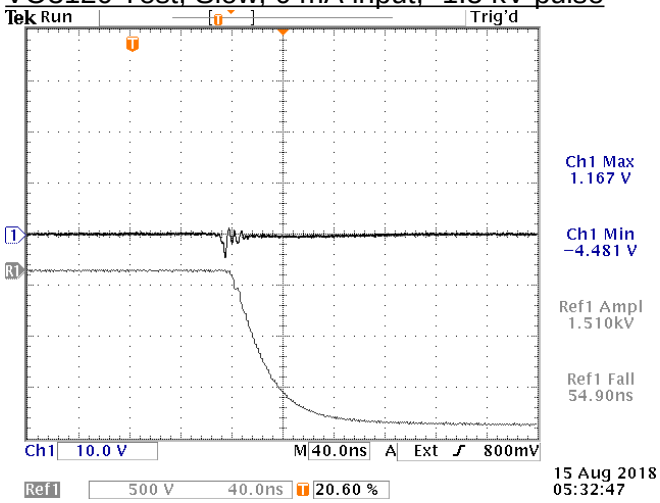


VO3120 Test, Slow, 10 mA input, +1.5 kV pulse

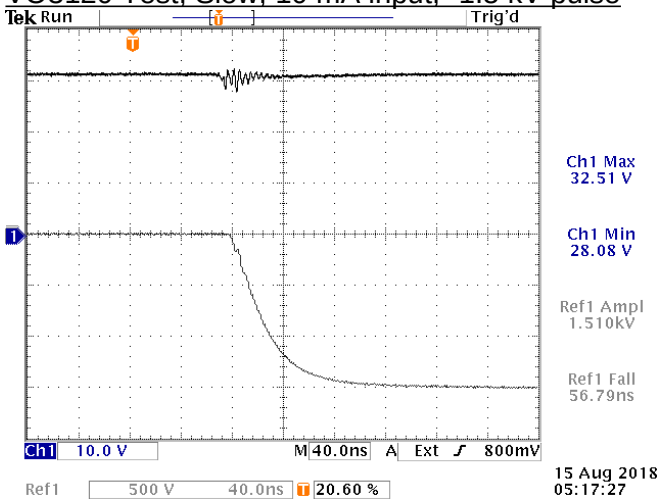


Top = Logic “A” out, +32V VCC2. P6139A probe.
Bottom = HV out (stored - with signal disconnected before recording logic waveform

VO3120 Test, Slow, 0 mA input, -1.5 kV pulse

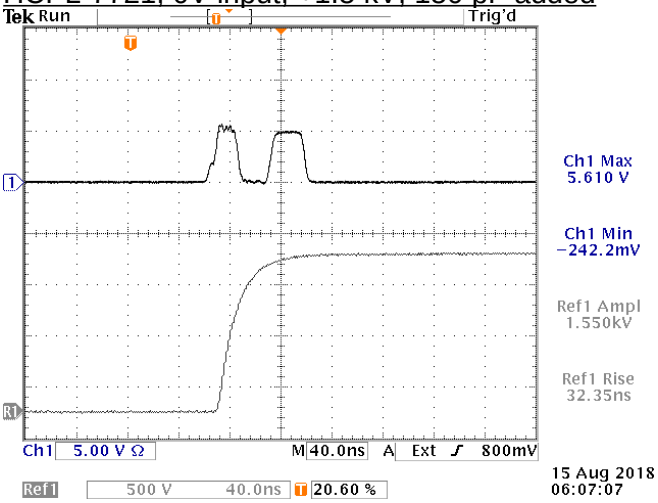


VO3120 Test, Slow, 10 mA input, -1.5 kV pulse

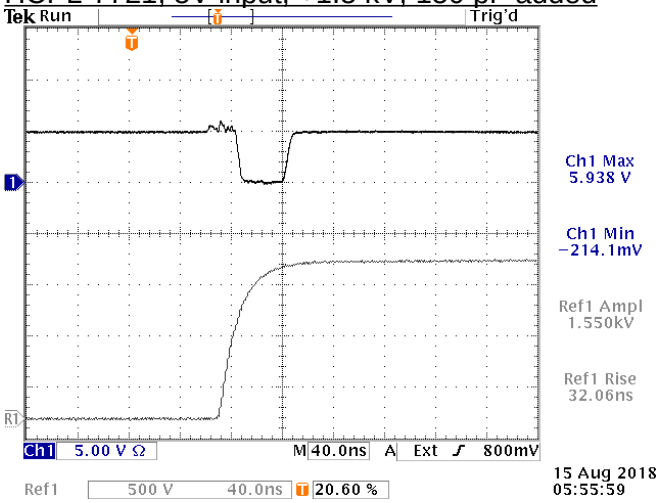


For these tests, 300 pF of capacitance was used.

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

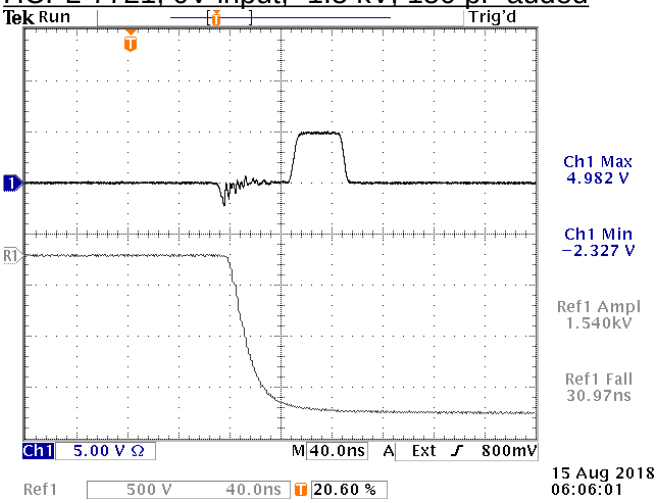


HCPL-7721, 5V input, +1.5 kV, 150 pF added

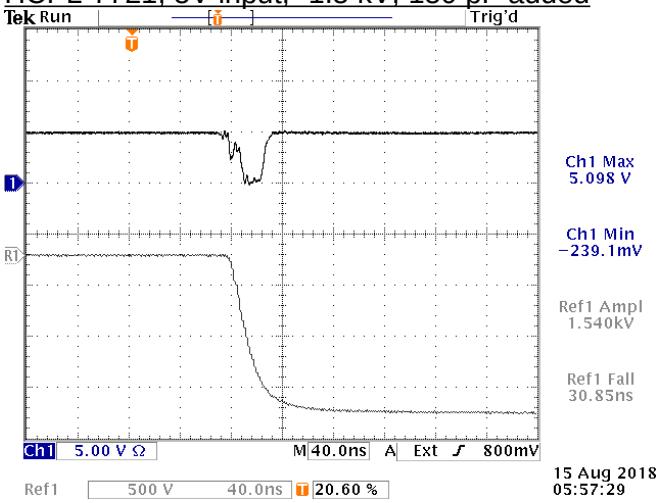


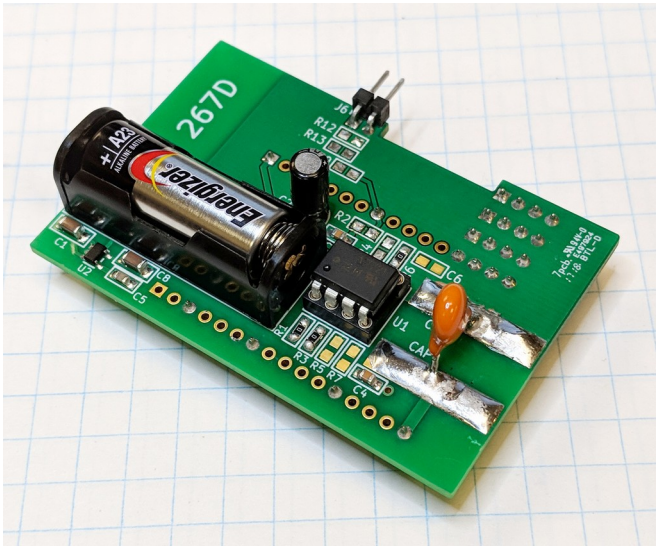
Top = Logic “A” out (with 0V input) using P6246.
Bottom = high voltage pulse (stored - with signal disconnected before recording logic waveform).

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

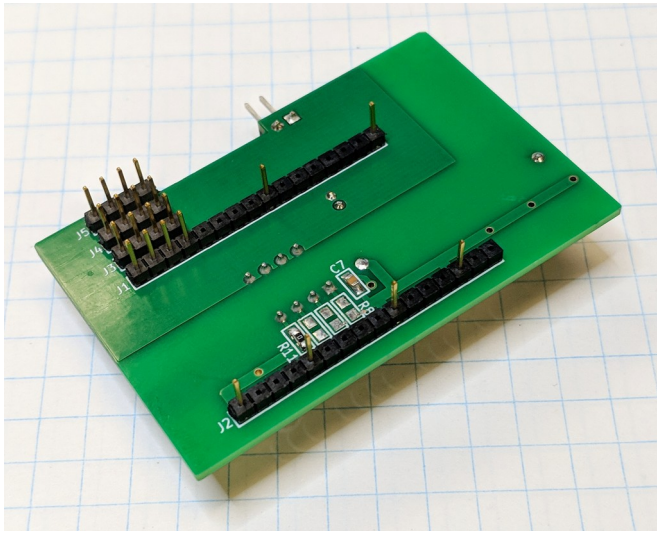


HCPL-7721, 5V input, -1.5 kV, 150 pF added





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



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