



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)

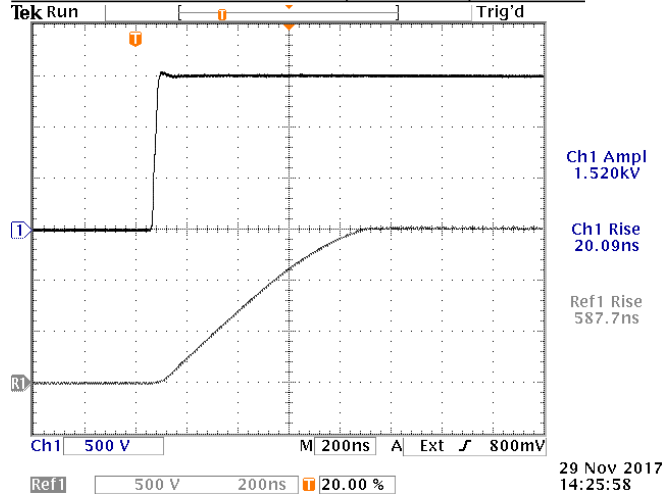
BOX 5120, LCD MERIVALE  
OTTAWA, ONTARIO  
CANADA K2C 3H5

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

PERFORMANCE CHECKSHEET

Model: AVRQ-4-B-SCHB-AC03  
Type: Common Mode Transient Immunity (CMTI) Test for Opto-Couplers  
S.N.: 13655  
Date: November 29, 2017

Min/Max Rise Time Tests, No DUT, Positive



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

b) Rise Time (10%-90%): 25 ns - 250 ns

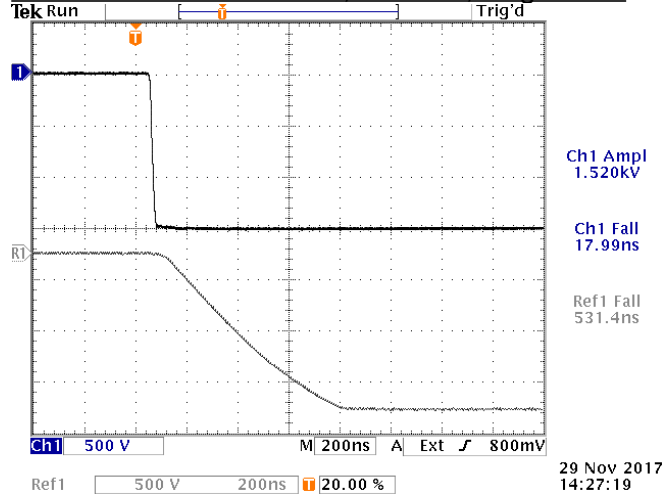
c) PRF: 1 Hz - 10 Hz

d) Jitter, Stability: OK

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

Top: minimum rise time setting, +1.5 kV  
Bottom: maximum rise time setting, +1.5 kV

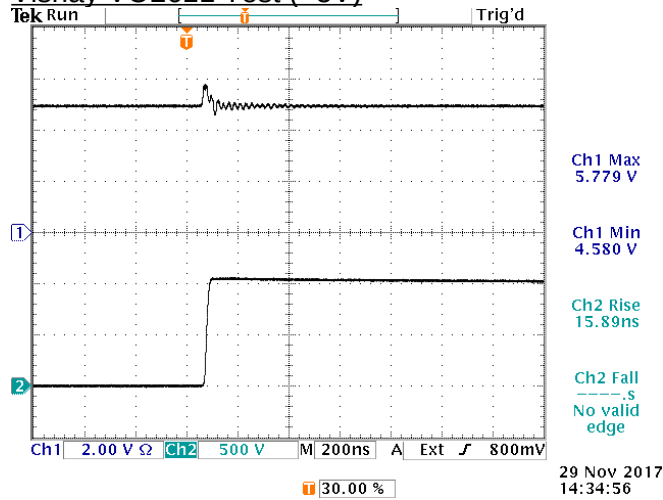
Min/Max Rise Time Tests, No DUT, Negative V



Top: minimum rise time setting, -1.5 kV  
Bottom: maximum rise time setting, -1.5 kV

References levels: 10%, 90%.

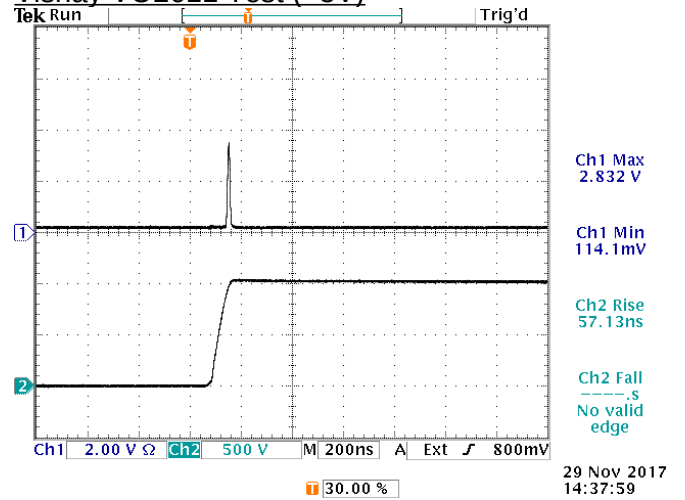
### Vishay VO2611 Test (+5V)



+1 kV, +5V, 0 mA, 348Ω load ("A" PCB).

No glitches at minimum risetime, so the CMTI exceeds  $(1\text{kV} \times (90\% - 10\%) / 15.89\text{ ns}) = 50.3\text{ kV/us}$ .

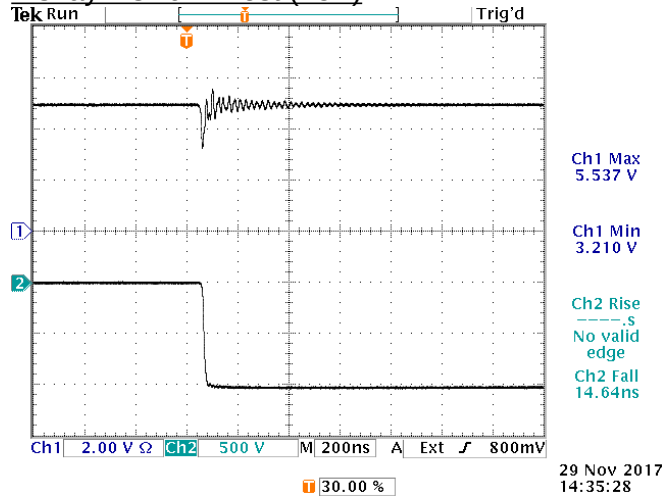
### Vishay VO2611 Test (+5V)



+1 kV, +5V, 7.5 mA, 348Ω load ("D7" PCB).

A ~50% glitch starts to occur at  $1\text{ kV} \times (90\% - 10\%) / 57.13\text{ ns} = 14.0\text{ kV/us}$ .

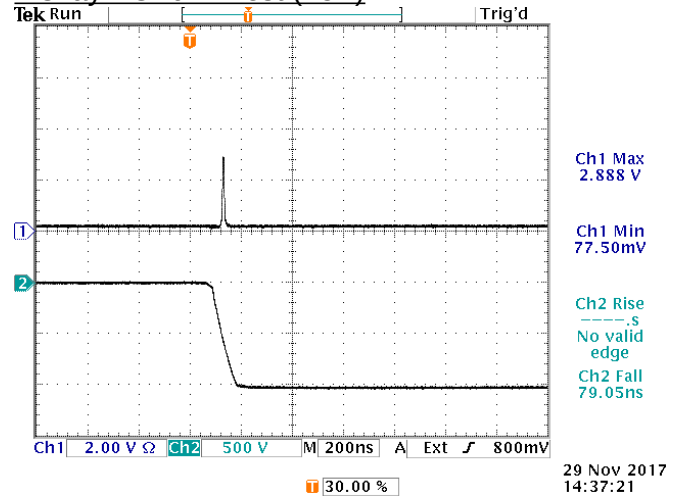
### Vishay VO2611 Test (+5V)



-1 kV, +5V, 0 mA, 348Ω load ("A" PCB).

The glitch at minimum risetime does not dip below 50%, so the CMTI exceeds  $(1\text{kV} \times (90\% - 10\%) / 14.64\text{ ns}) = 54.6\text{ kV/us}$ .

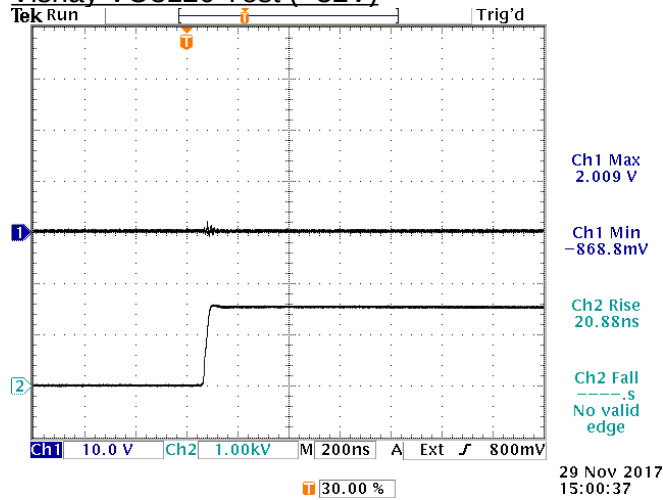
### Vishay VO2611 Test (+5V)



-1 kV, +5V, 7.5 mA, 348Ω load ("D7" PCB).

A ~50% glitch starts to occur at  $1\text{ kV} \times (90\% - 10\%) / 79.05\text{ ns} = 10.1\text{ kV/us}$ .

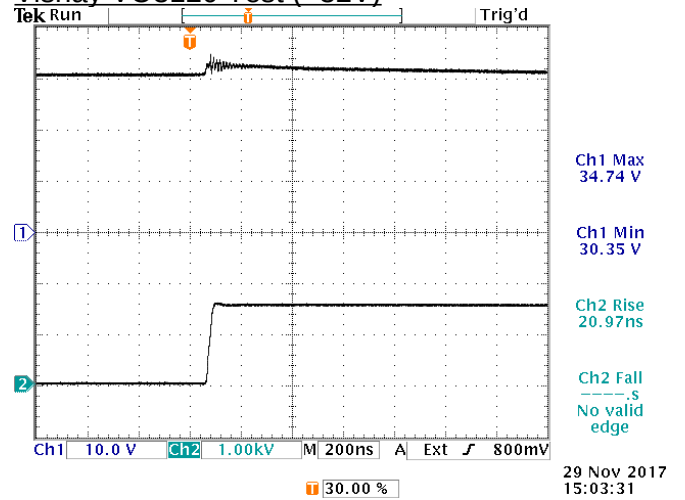
### Vishay VO3120 Test (+32V)



+1.5kV, +32V, 0 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 20.88 \text{ ns}) = 57.5 \text{ kV/us}$ .

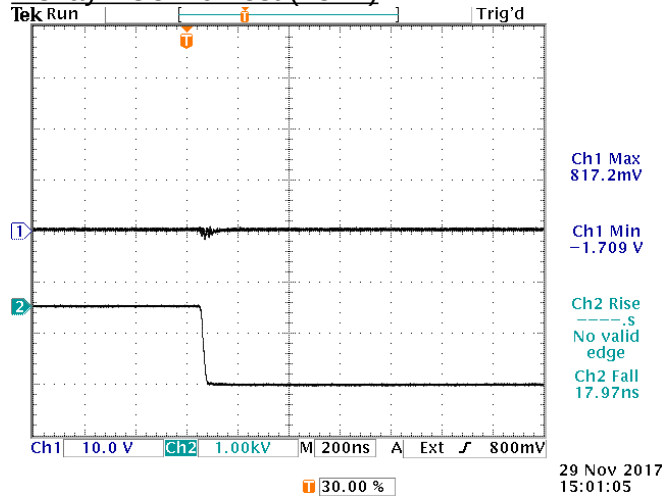
### Vishay VO3120 Test (+32V)



+1.5kV, +32V, 10 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 20.97 \text{ ns}) = 57.2 \text{ kV/us}$ .

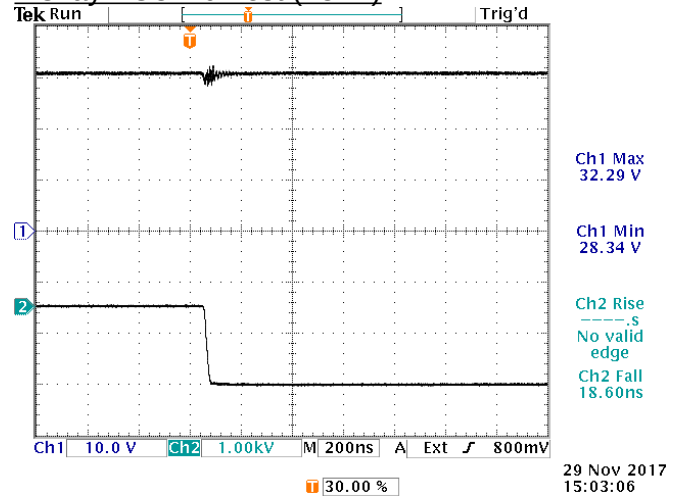
### Vishay VO3120 Test (+32V)



-1.5kV, +32V, 0 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 17.97 \text{ ns}) = 66.8 \text{ kV/us}$ .

### Vishay VO3120 Test (+32V)



-1.5kV, +32V, 10 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 18.6 \text{ ns}) = 64.5 \text{ kV/us}$ .

A P6139B probe was used to measure the logic output, instead of the P6246 differential probe, due to its limited voltage input range.

A non-standard daughterboard was used to test the VO3120, with:

- R1, R2, R5, R7, C6: unused
- R4, R6, R8, R10, R11: zero Ohms
- R3 = unused for 0 mA, 348 Ohms for 10 mA
- R9 = zero Ohms for 0 mA, unused for 10 mA