



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)

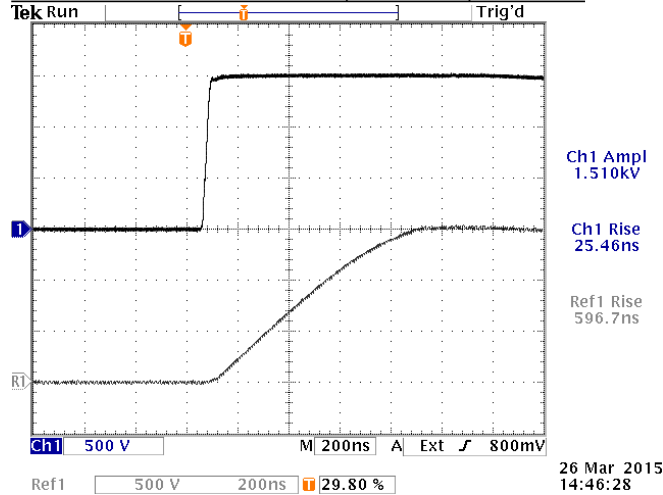
BOX 5120, LCD MERIVALE  
OTTAWA, ONTARIO  
CANADA K2C 3H5

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

PERFORMANCE CHECKSHEET

Model: AVRQ-4-B-SCHB  
Type: Common Mode Transient Immunity (CMTI) Test for Opto-Couplers  
S.N.: 13282  
Date: March 26, 2015

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

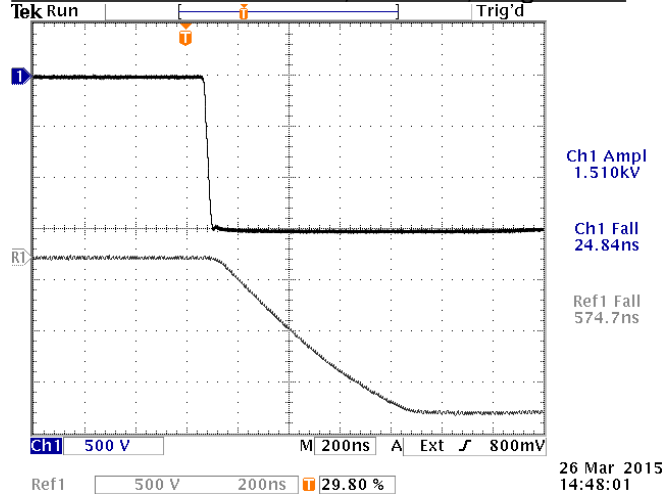
c) PRF: 1 Hz - 10 Hz

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

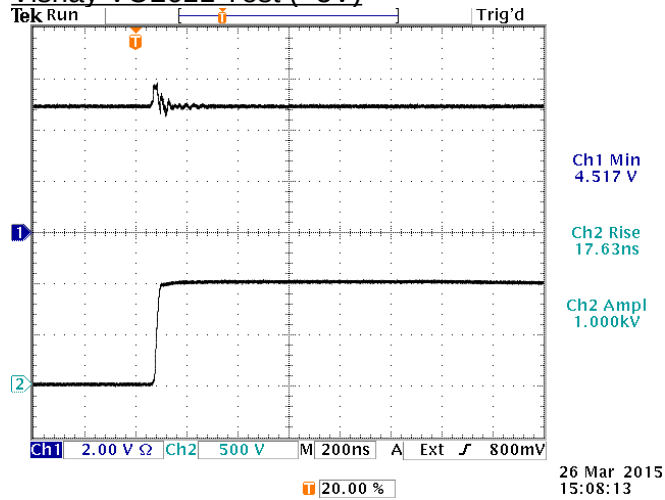
Min/Max Rise Time Tests, No DUT, Negative V



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

References levels: 10%, 90%.

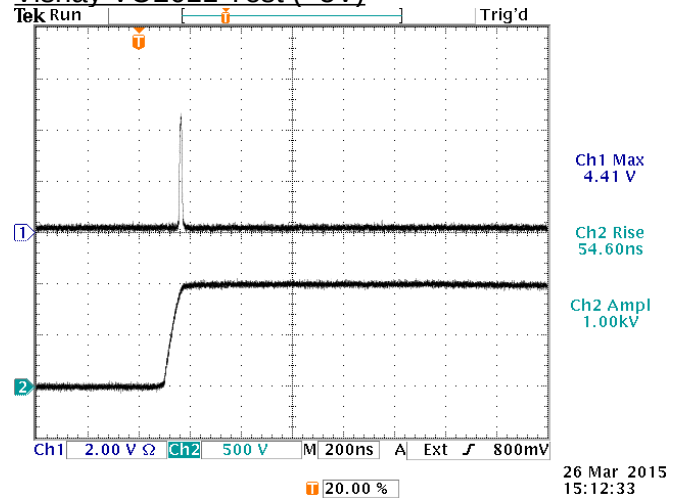
### Vishay VO2611 Test (+5V)



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

No glitches at minimum risetime, so the CMTI exceeds  $(1\text{kV} \times (90\% - 10\%) / 17.63 \text{ ns}) = 45.3 \text{ kV/us}$ .

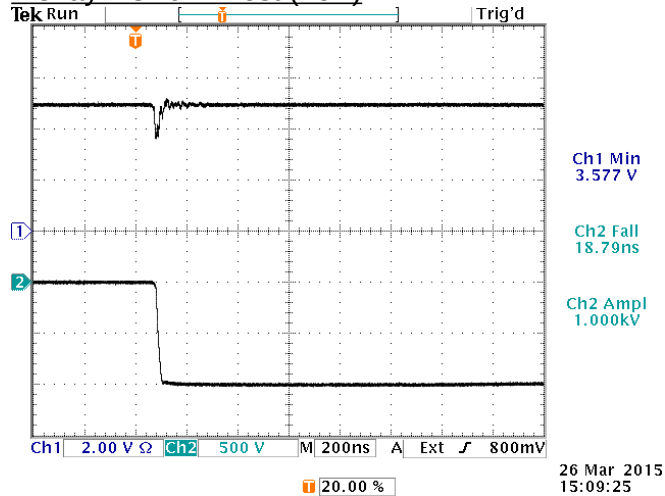
### Vishay VO2611 Test (+5V)



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

A ~50% glitch starts to occur at  $1 \text{ kV} \times (90\% - 10\%) / 54.6 \text{ ns} = 14.7 \text{ kV/us}$ .

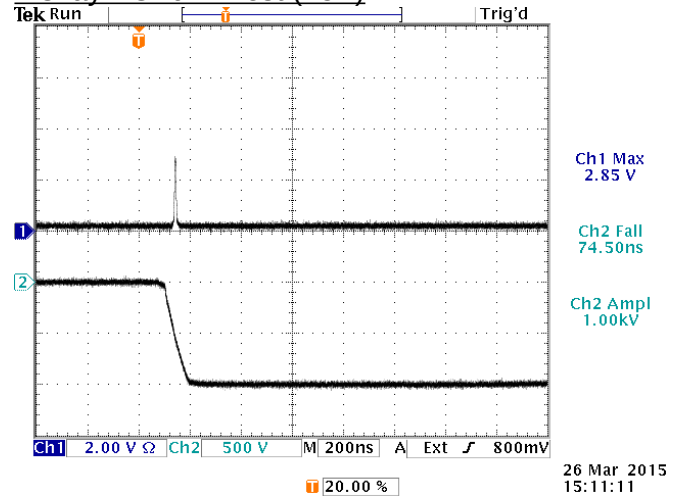
### Vishay VO2611 Test (+5V)



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

The glitch at minimum risetime does not dip below 50%, so the CMTI exceeds  $(1\text{kV} \times (90\% - 10\%) / 18.79 \text{ ns}) = 42.6 \text{ kV/us}$ .

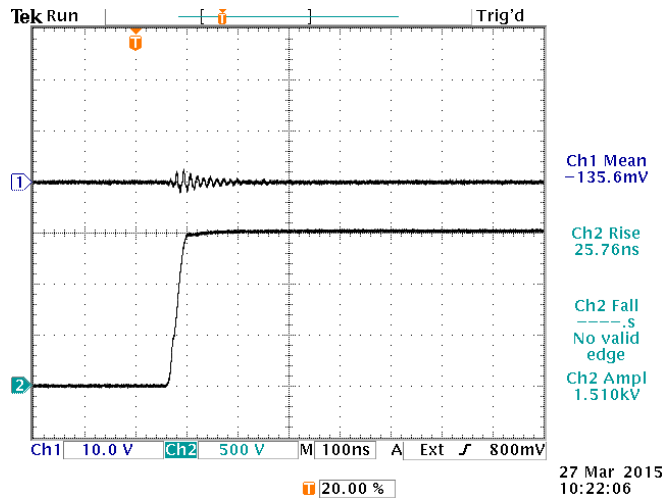
### Vishay VO2611 Test (+5V)



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

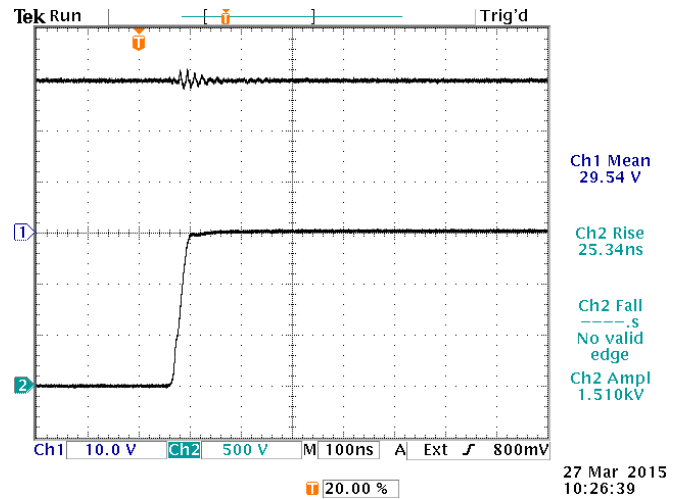
A ~50% glitch starts to occur at  $1 \text{ kV} \times (90\% - 10\%) / 74.5 \text{ ns} = 10.7 \text{ kV/us}$ .

CT3120 Tests (sample marked "Dj2" on bottom)



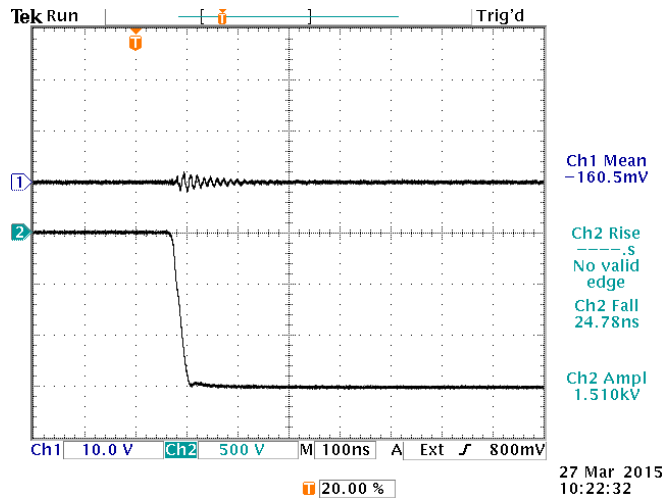
+1.5kV, +30V, 0 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 25.76 \text{ ns}) = 46.6 \text{ kV/us}$ .



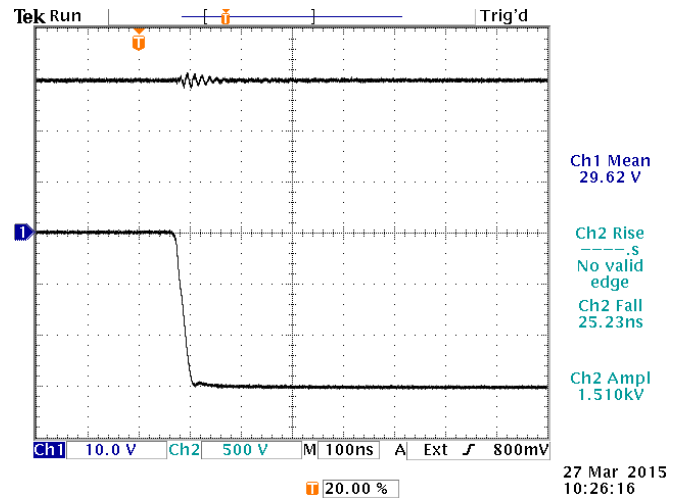
+1.5kV, +30V, 10 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 25.34 \text{ ns}) = 47.4 \text{ kV/us}$ .



-1.5kV, +30V, 0 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 24.78 \text{ ns}) = 48.4 \text{ kV/us}$ .



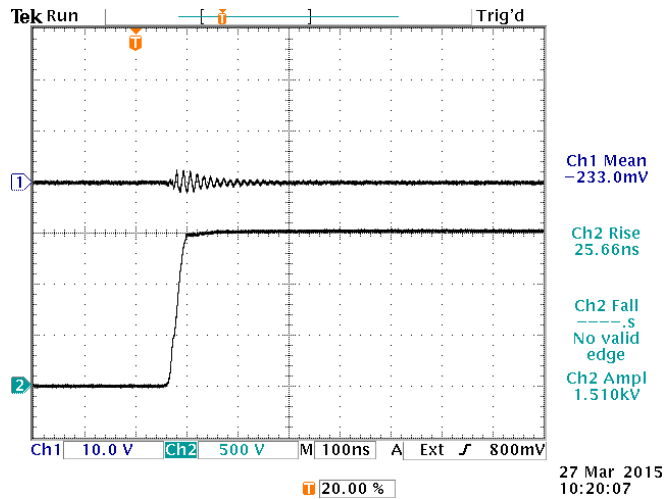
-1.5kV, +30V, 10 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 25.23 \text{ ns}) = 47.6 \text{ kV/us}$ .

Daughterboard configuration (non-standard):

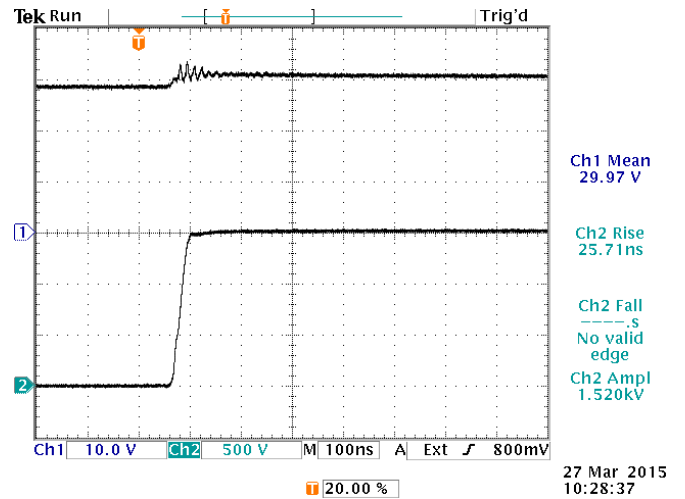
- R1, R2, R5, R7, C6: unused
- R4, R6, R8, R10, R11: zero Ohms
- R3 = unused for 0 mA, 348 Ohms for 10 mA
- R9 = zero Ohms for 0 mA, unused for 10 mA

## HCPL-3120 Tests (sample with 1242 date code)



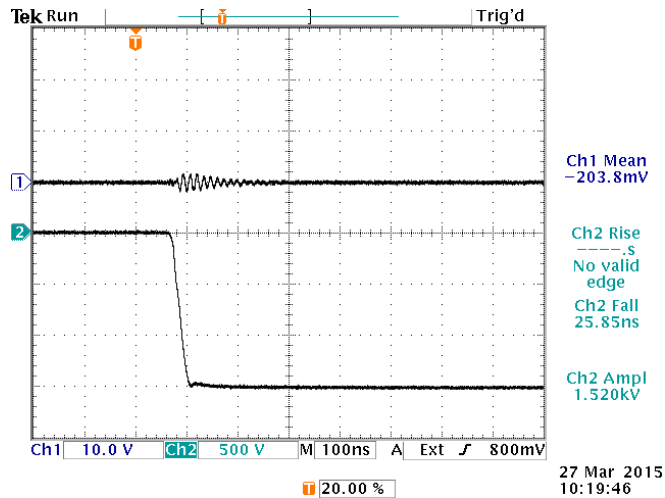
+1.5kV, +30V, 0 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 25.66\text{ ns}) = 46.8\text{ kV/us}$ .



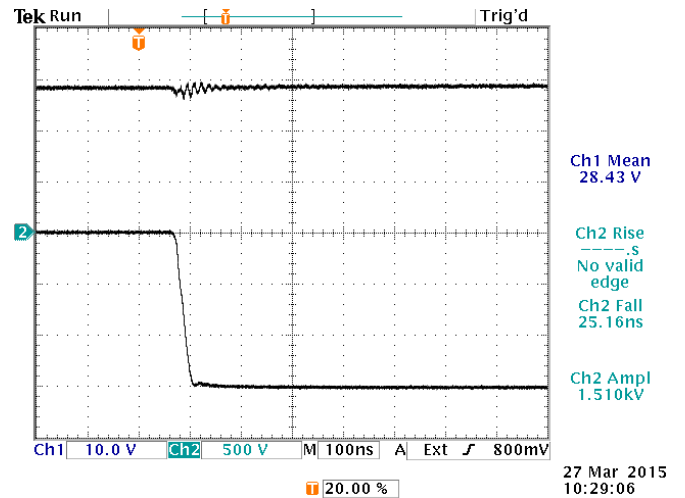
+1.5kV, +30V, 10 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 25.71\text{ ns}) = 46.7\text{ kV/us}$ .



-1.5kV, +30V, 0 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 25.85\text{ ns}) = 46.4\text{ kV/us}$ .



-1.5kV, +30V, 10 mA

No glitches at minimum risetime, so the CMTI exceeds  $(1.5\text{kV} \times (90\% - 10\%) / 25.16\text{ ns}) = 47.7\text{ kV/us}$ .

Daughterboard configuration (non-standard):

- 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