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SINCE 1975

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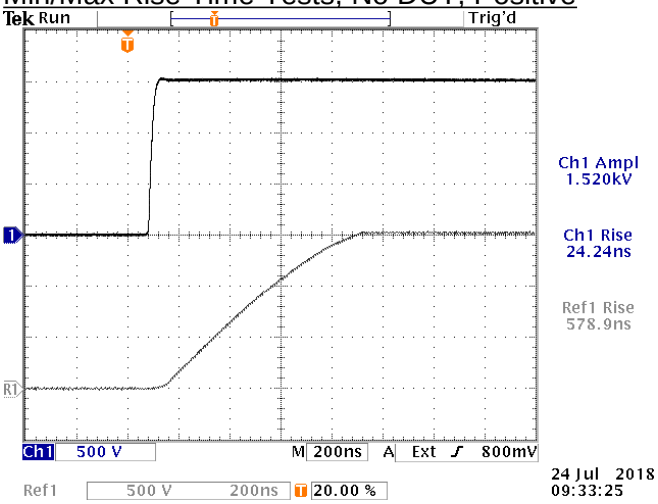
BOX 5120, LCD MERIVALE
OTTAWA, ONTARIO
CANADA K2C 3H5

PERFORMANCE CHECKSHEET

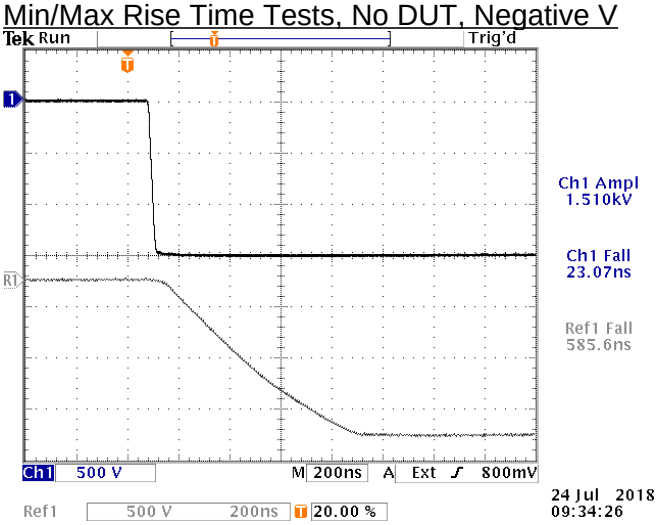
Model: AVRQ-4-B-SCHB-AC22
Type: Common Mode Transient Immunity (CMTI) Test for Opto-Couplers
S.N.: 13758
Date: July 23, 2018

Min/Max Rise Time Tests, No DUT, Positive



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

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

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

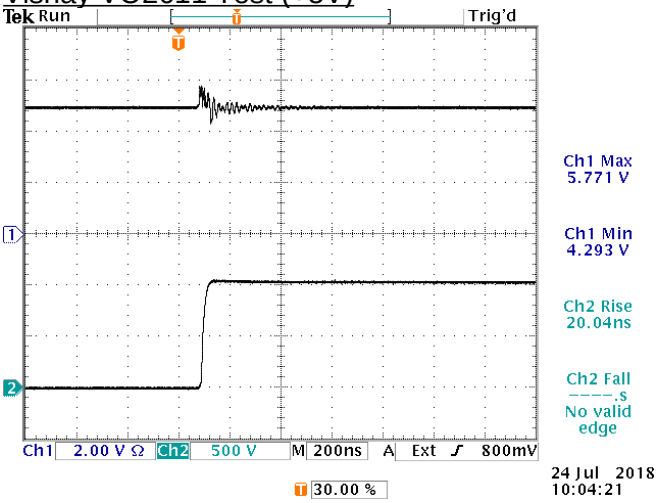
c) PRF: 1 Hz - 10 Hz

d) Jitter, Stability: OK

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

References levels: 10%, 90%.

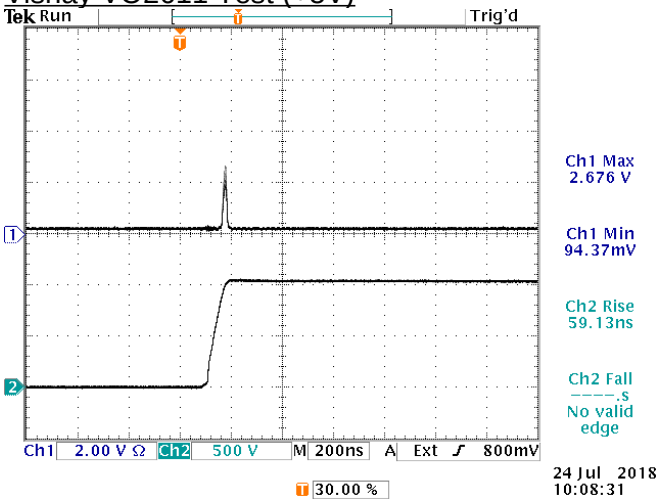
Vishay VO2611 Test (+5V)



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

No glitches at minimum risetime, so the CMTI exceeds (1kV × (90% - 10%) / 20.04 ns) = 39.9 kV/us.

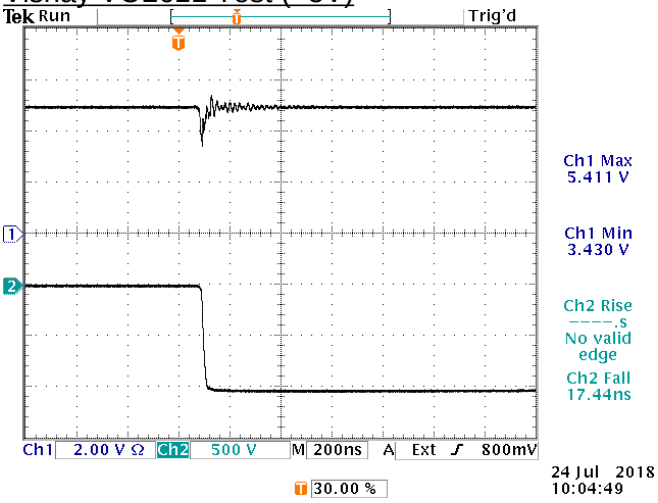
Vishay VO2611 Test (+5V)



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

A ~50% glitch starts to occur at 1 kV × (90% - 10%) / 59.13 ns = 13.5 kV/us.

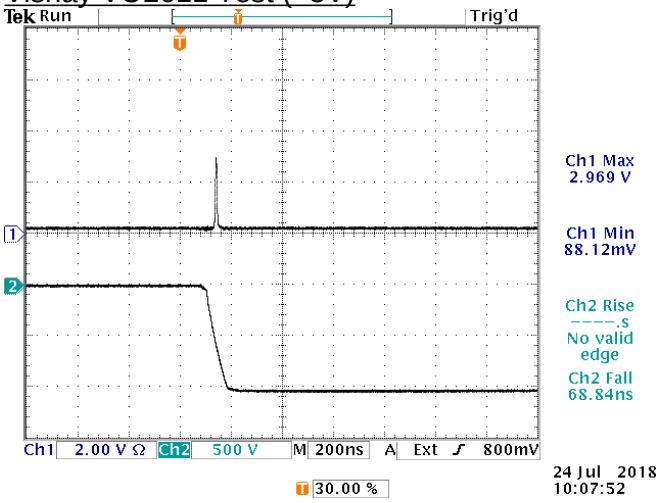
Vishay VO2611 Test (+5V)



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

The glitch at minimum risetime does not dip below 50%, so the CMTI exceeds (1kV × (90% - 10%) / 17.44 ns) = 45.9 kV/us.

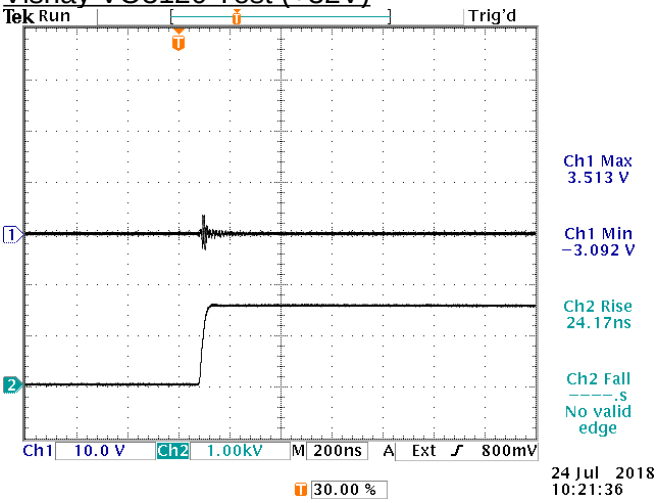
Vishay VO2611 Test (+5V)



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

A ~50% glitch starts to occur at 1 kV × (90% - 10%) / 68.84 ns = 11.6 kV/us.

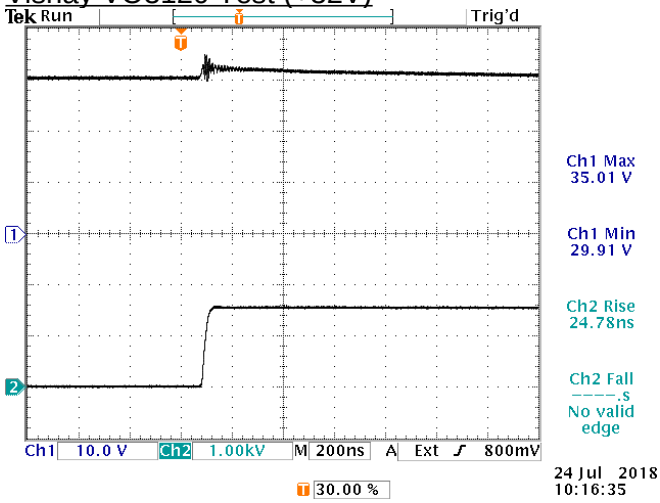
Vishay VO3120 Test (+32V)



+1.5kV, +32V, 0 mA

No glitches at minimum risetime, so the CMTI exceeds (1.5kV × (90% - 10%) / 24.17 ns) = 49.6 kV/us.

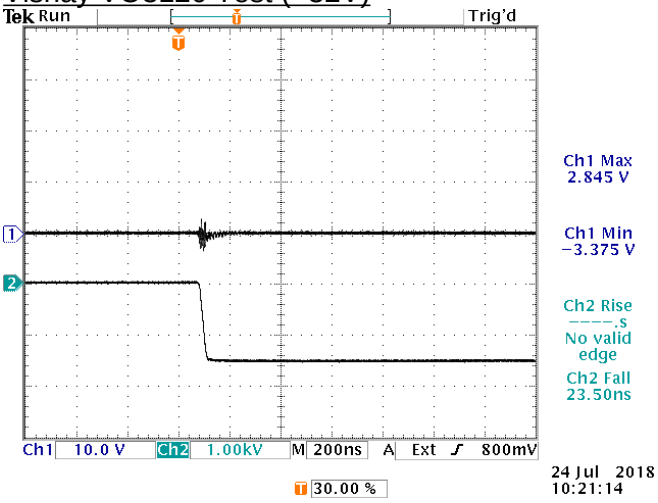
Vishay VO3120 Test (+32V)



+1.5kV, +32V, 10 mA

No glitches at minimum risetime, so the CMTI exceeds (1.5kV × (90% - 10%) / 24.78 ns) = 48.4 kV/us.

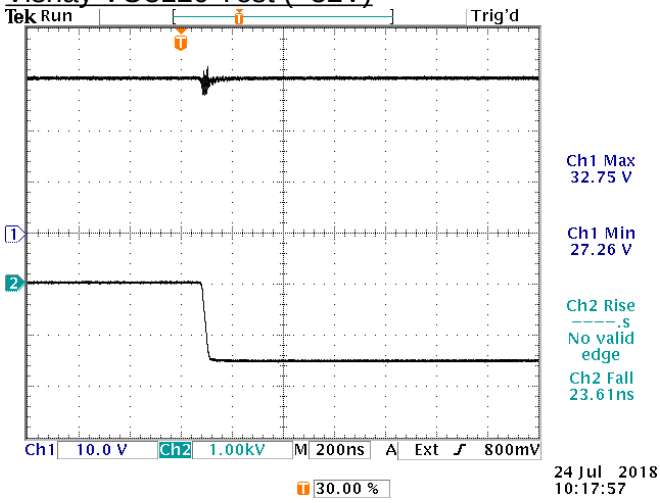
Vishay VO3120 Test (+32V)



-1.5kV, +32V, 0 mA

No glitches at minimum risetime, so the CMTI exceeds (1.5kV × (90% - 10%) / 23.50 ns) = 51.1 kV/us.

Vishay VO3120 Test (+32V)



-1.5kV, +32V, 10 mA

No glitches at minimum risetime, so the CMTI exceeds (1.5kV × (90% - 10%) / 18.6 ns) = 64.5 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