

# ACTIVE PCB MOUNT VIDEO GROUND ISOLATOR WITH FIELD TILT CORRECTOR

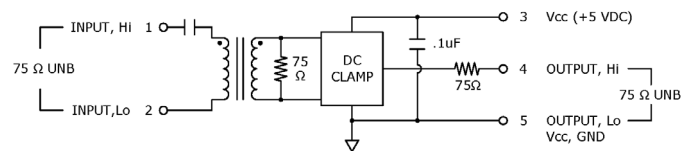
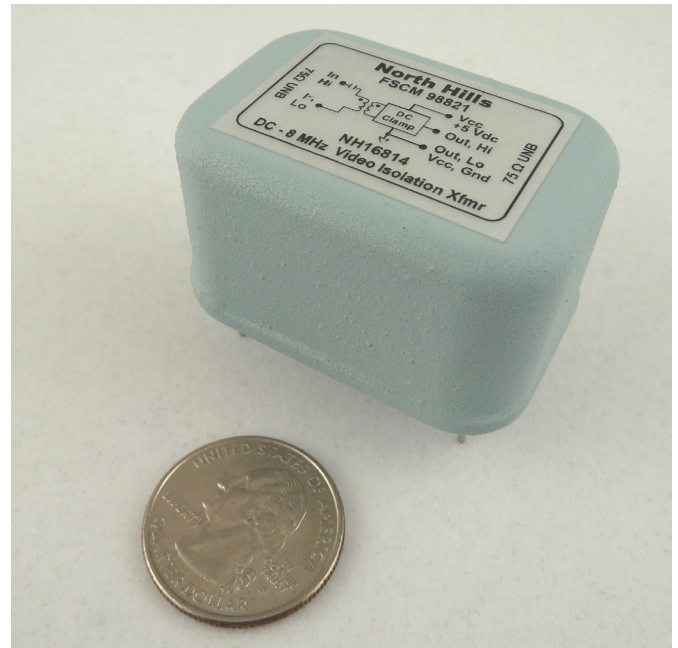
The NH16814 Video Ground Isolator is designed for installation at the receiving end of a coax transmission line in PAL and NTSC video networks. Potential differences between the ground of the coax line and the ground of the receiving equipment are attenuated more than 120 dB for voltages up to 500V<sub>RMS</sub>.

The input utilizes a capacitor to block the DC bias on the video signal. For some video equipment, capacitors are added as part of the legacy design to protect the equipment from any short circuit to ground. For devices that do not have this capacitor, the NH16814 provides this protection.

The NH16814 implements a wideband video isolation transformer to isolate the input and output grounds and is followed by a video driver amplifier that includes a dc restorer. The output is direct-coupled but also can be AC-coupled by adding a capacitor in series with Pin 4. The output can be used with devices such as: Televisions, flat-panel displays, DVD players, digital camcorders, digital still cameras, video-capable cell phones, portable video game consoles, PDAs and notebook computers.

The residual field tilt is minimal due to a built-in video field tilt corrector driver on the output.

**North Hills Application Note 153** - "Ground Isolation in Video Transmission" and **Application Note 157** "Ground Isolation when the Video Feed has a DC Component" provide further information on the subject of video isolation transformers.



**SCHEMATIC DIAGRAM**

## Features:

- DC-8 MHz bandwidth
- 120 dB isolation at power frequencies
- 500 V<sub>rms</sub> withstanding voltage, winding to winding and each winding to case

## Benefits:

- Eliminates picture quality problems easily and efficiently
- Fully sealed enclosure
- Easy to install



# VIDEO GROUND ISOLATOR WITH FIELD TILT CORRECTOR

Potential differences between the ground of the coax line and the ground of the receiving equipment are attenuated more than 120 dB for Voltages up to 500V<sub>RMS</sub>.

Case Style:

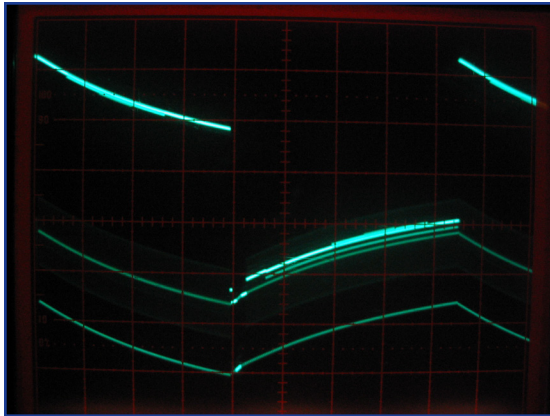
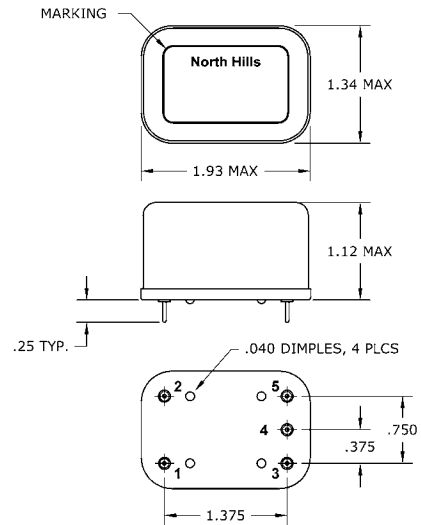


Figure 1. Field-Tilted Input Signal to Video Isolation Transformer (Using a 1Vp-p HiLo Trk Signal)

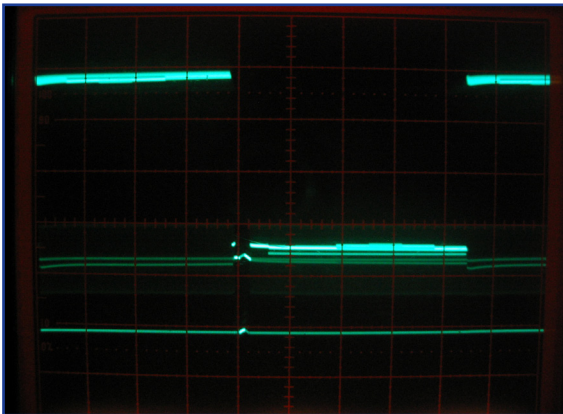


Figure 2. 1 Vp-p Video Isolation Transformer Corrected Output Signal (Using a 1Vp-p HiLo Trk Input Signal)

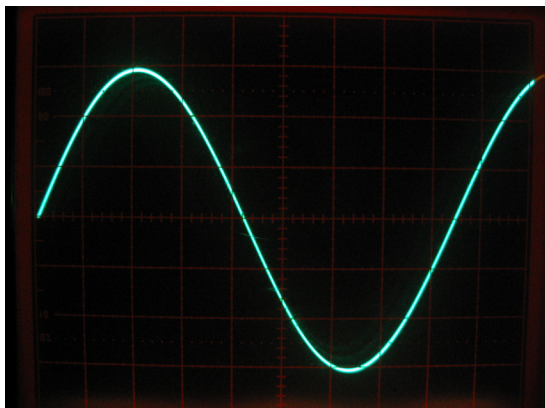


Figure 3. Typical potential difference between grounds, 100Vp-p - 60Hz, which is attenuated by Video Isolation Transformer

| Electrical Specifications:                              |  |
|---|--|
| Parameter:  | Value:   |
| Impedance   | 75Ω UNB ~ 75Ω UNB  |
| Input   | 1Vp-p Nominal, Capacitively-Coupled  |
| Output  | DC - 8 MHz, Direct Coupled (3dB)   |
| Nominal Gain  | 1  |
| Differential Gain                                       | 1% Typical   |
| Differential Phase                                      | 0.5° Typical   |
| Group Delay (@3.58MHz)                                  | 40 ns Typical  |
| Maximum Field Tilt                                      | 3%   |
| Ground Isolation  | 500 V <sub>RMS</sub> Maximum   |
| Power   | +5VDC; 12mA Typ., Current Under Load-20 mA Typ. Connect Power Supply Ground to Output L <sub>o</sub> (Pin 5) |
| Mechanical Specifications:                              |  |
| Terminal, Pins (x5):                                    | Glass Insulated Compression Pins ø.040, Tin-Plated   |
| Case and Cover  | Cold Rolled Steel Solder Plated  |
| Finish  | Blue Enamel per TT-E-529, Per Fed-STD-595 #25526   |
| Weight  | Less than 80 Grams   |
| Operating Temperature                                   | -20°C to +70°C   |
| Ordering Information:                                   |  |
| Model Number  | NH16814  |
| <i>Specifications subject to change without notice.</i> |  |