

GL3820

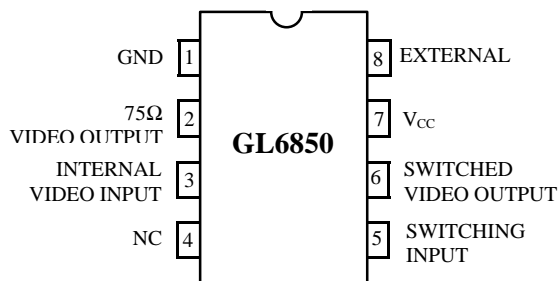
Description

This integrated circuit provides all video switching allowing connections between the peritv plug and video sections in the TV set.

Features

- 1 Video Output 75Ω– 1 V_{PP} No Switched
- 1 Switched Video Output 2 V_{PP}
- Video Cross Talk : 50 dB Typical
- Short Circuit Protection of Inputs and Outputs
- Clamped Video Inputs

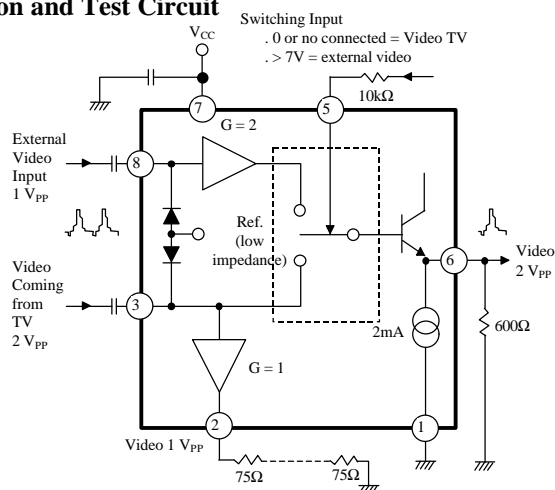
Pin configuration



Maximum Ratings

| RATING | SYMBOL | VALUE | UNIT |
|--|------------------|-----------------------------|------|
| Supply Voltage | V _{cc} | 18 | V |
| Operating Temperature with Load > 150Ω with Load = 75Ω | T _{opr} | -10 to + 100 -10 to + 70 | °C |
| Junction Temperature | T _j | -40 to + 150 | °C |
| Storage Temperature | T _{stg} | -40 to + 150 | °C |
| Minimum DC Load Resistor P ₆ | | 600 | Ω |
| Minimum DC Load Resistor P ₂ | | 75 | Ω |

Typical Application and Test Circuit



Note : We advice to protect the 75Ω output through a 75Ω resistor for supply voltage upper than 9 V.

Electrical Characteristics : $T_a = +25^\circ\text{C}$; $V_{CC} = 9\text{V}$ (unless otherwise noted)

| CHARACTERISTIC | SYMBOL | MIN | TYP | MAX | UNIT |
|--|-----------|-------------|-------------|-------------|-----------|
| Supply Voltage Range | V_{CC} | 8 | - | 14 | V |
| Supply Current (no load on pin 2 and pin 6) | I_{CC} | - | - | 20 | mA |
| Supply Current (with 75Ω between pin 2-1, with 600Ω between pin 6-1) | I_{CC} | - | 40 | - | mA |
| Total Power Dissipation with Load | P_{tot} | - | 450 | - | mW |
| Internal Video Input Swing from PIF (positive video) | - | - | - | 4.5 | V_{PP} |
| Internal Video Input Impedance (positive video) | - | 50 | - | - | $k\Omega$ |
| External Video input Swing (positive video) | - | - | - | 2 | V_{PP} |
| External Video Input Impedance (positive video) | - | 50 | - | - | $k\Omega$ |
| Switched Video Output Swing | - | - | - | 4.5 | V_{PP} |
| Switched Video Output Dynamic Impedance | - | - | 10 | - | Ω |
| Switched Video DC Output Voltage (sync. Pulse level, note) (600Ω) | - | 105 | 1.8 | 2.2 | V |
| Switched Video Band Width (-1 dB) | - | 6 | - | - | MHz |
| Switched Video Output Gain Pin 6 – Pin 8 (gain with 600Ω load) Pin 6 – Pin 3 (gain with 600Ω load) | - | +5 -1 | +6 -0.5 | +7 0 | DB |
| External Video Output swing(with 150Ω load) | - | - | 2 | 2.2 | V |
| External Video Dynamic Output Impedance | - | - | 10 | - | Ω |
| External Video DC Output Voltage (sync. Pulse level, note) (150Ω) | - | 1.5 | 1.8 | 2.2 | V |
| External Video Output Gain (pin 2 – pin3 gain with 150Ω load) | - | -1.8 | -1 | -0.4 | dB |
| Switching Input Unactive Low Level or Unconnected Pin (TV receiving) | - | 0 | - | 3 | V |
| Switching Input Active Level (ext. receiving) | - | 7 | - | V_{CC} | V |
| Switching Input Impedance | - | 10 | - | - | $k\Omega$ |
| Video Rejection between Two Inputs 0 to 5 MHz 1kHz | - | - -50 | -50 - | - - | dB |
| Differential Group Delay | - | - | 15 | - | ns |
| Linearity Distortion Luma Chroma Intermodulation Luma - Chroma | - | - - - | 2 2 5 | - - - | % |
| Supply Voltage Rejection (1 kHz) | - | 40 | 50 | - | dB |

Note : Use a video signal with a synchro pulse in order to make the clamp work in a correct way (75Ω to the ground and $10\mu\text{F}$ in series).