

# GL3820

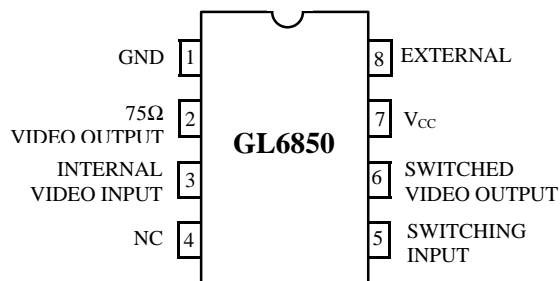
## Description

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

## Features

- 1 Video Output 75Ω– 1 V<sub>PP</sub> No Switched
- 1 Switched Video Output 2 V<sub>PP</sub>
- Video Cross Talk : 50 dB Typical
- Short Circuit Protection of Inputs and Outputs
- Clamped Video Inputs

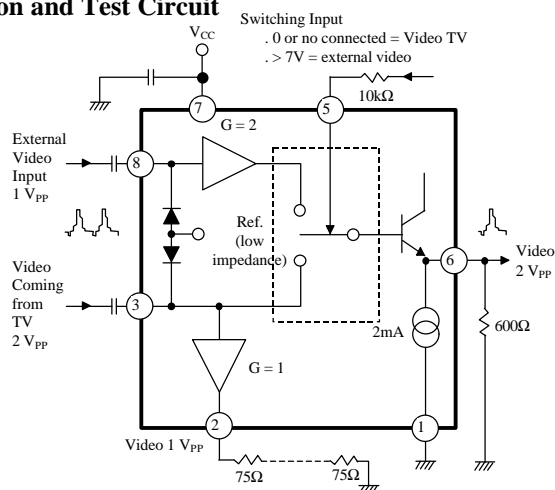
## Pin configuration



## Maximum Ratings

RATING	SYMBOL	VALUE	UNIT
Supply Voltage	V <sub>cc</sub>	18	V
Operating Temperature with Load > 150Ω with Load = 75Ω	T <sub>opr</sub>	-10 to + 100 -10 to + 70	°C
Junction Temperature	T <sub>j</sub>	-40 to + 150	°C
Storage Temperature	T <sub>stg</sub>	-40 to + 150	°C
Minimum DC Load Resistor P <sub>6</sub>		600	Ω
Minimum DC Load Resistor P <sub>2</sub>		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 $75\Omega$ between pin 2-1, with $600\Omega$ 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	-	$\Omega$
Switched Video DC Output Voltage (sync. Pulse level, note) ( $600\Omega$ )	-	105	1.8	2.2	V
Switched Video Band Width (-1 dB)	-	6	-	-	MHz
Switched Video Output Gain Pin 6 – Pin 8 (gain with $600\Omega$ load) Pin 6 – Pin 3 (gain with $600\Omega$ load)	-	+5 -1	+6 -0.5	+7 0	DB
External Video Output swing( with $150\Omega$ load)	-	-	2	2.2	V
External Video Dynamic Output Impedance	-	-	10	-	$\Omega$
External Video DC Output Voltage (sync. Pulse level, note) ( $150\Omega$ )	-	1.5	1.8	2.2	V
External Video Output Gain (pin 2 – pin3 gain with $150\Omega$ 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 ( $75\Omega$  to the ground and  $10\mu\text{F}$  in series).