

GL3820

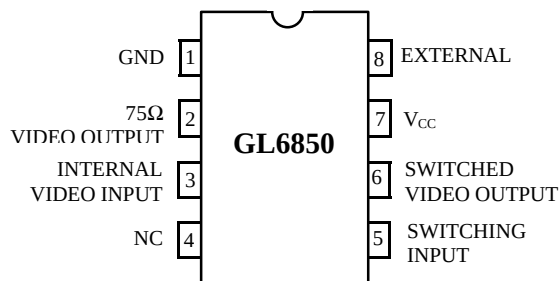
Description

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

Features

- 1 Video Output 75 Ω –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

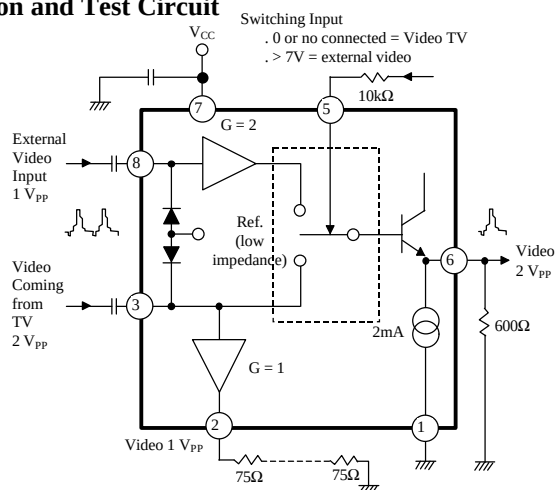
Pin configuration



Maximum Ratings

RATING	SYMBOL	VALUE	UNIT
Supply Voltage	V _{cc}	18	V
Operating Temperature	T _{opr}	-10 to + 100	°C
with Load > 150 Ω		-10 to + 70	
with Load = 75 Ω			
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 75 Ω output through a 75 Ω 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).