

HA11513

T-77-07-13

5 Channel Video Switch

The HA11513 is a bipolar LSI for video switch. The HA11513 is designed for switching of video signals.

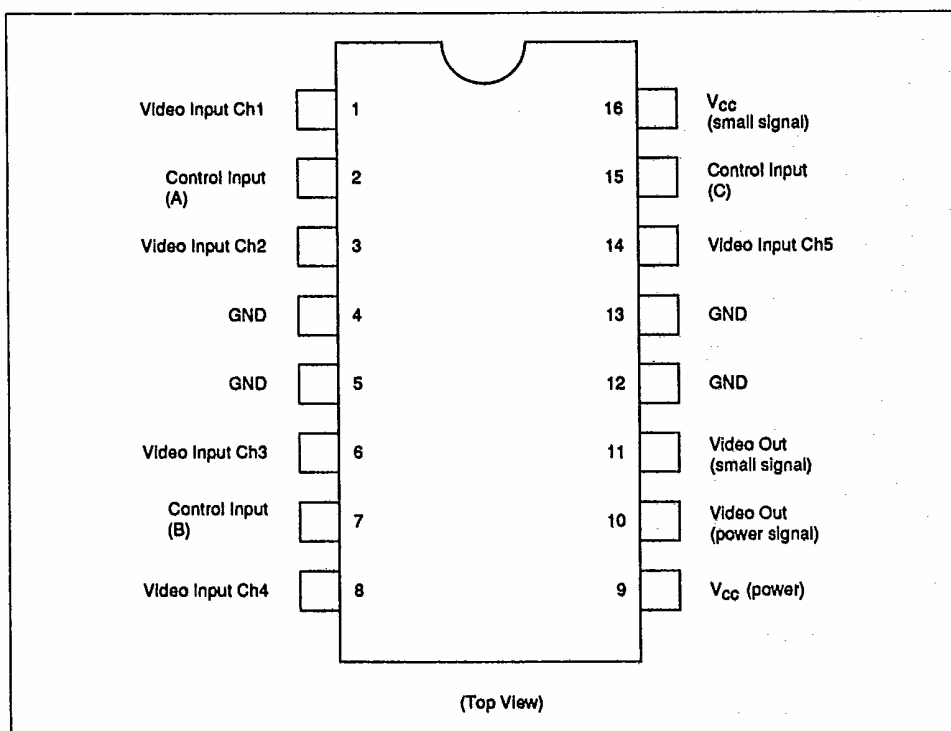
Features

- 5ch video input
- Low impedance drive output ($R_L = 150\Omega$) and high impedance drive output ($R_L = 1k\Omega$)
- Including 6dB amplifier
- Frequency response ($\pm 0.5\text{dB}$) $f = 1\text{kHz}$ to 5MHz
- Low cross-talk ($f = 4.2\text{MHz}$) Max -60dB
- Supply voltage $12\pm 1\text{V}$

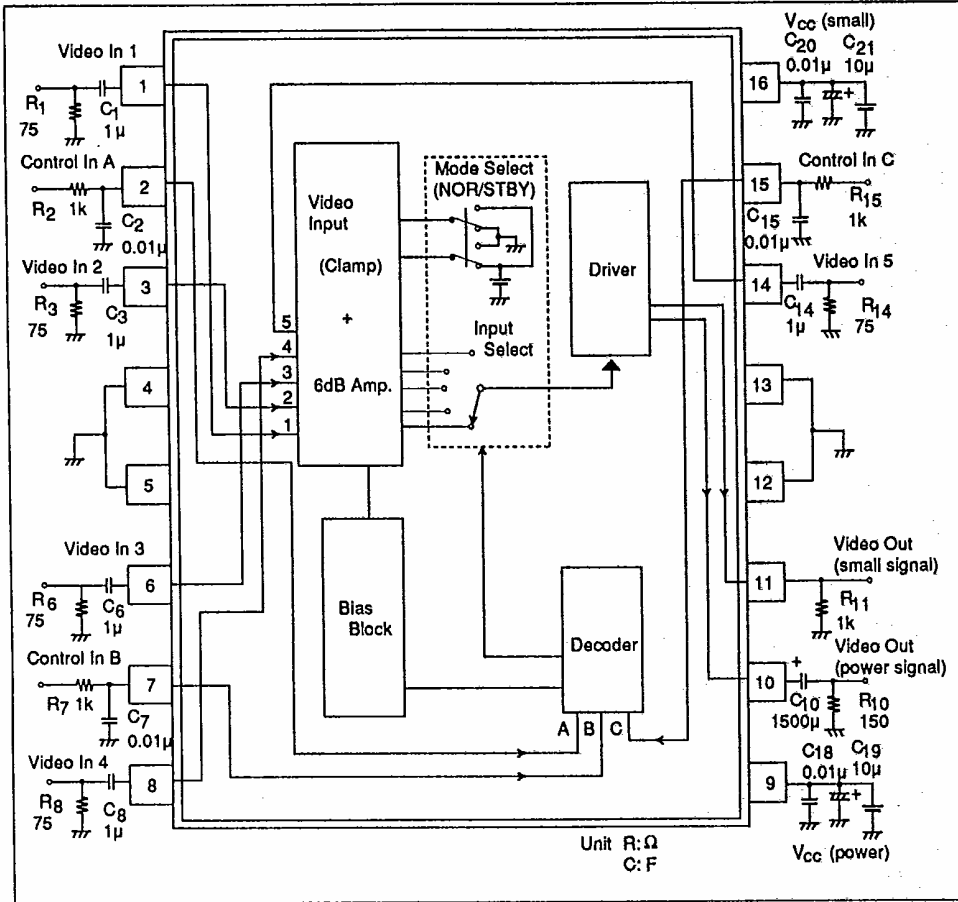
Ordering Information

| Type No. | Package |
|----------|---------|
| HA11513 | DP-16 |

Pin Arrangement



Block Diagram



Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | HA11513 | Unit |
|-------------------------------|----------------------|-----------------|------|
| Supply Voltage | V _{CC} | 15 | V |
| Video Input Voltage | V _I video | V _{CC} | V |
| Output Current (Power) | I _O power | 80 | mA |
| Output Current (Small Signal) | I _O small | 20 | mA |
| Power Dissipation | P _T | 1300 | mW |
| Operating Temperature | T _{opr} | 0 to +70 | °C |
| Storage Temperature | T _{stg} | -55 to +150 | °C |



Input Condition

| Video Input Ch. No. | Pin. No. | Control Input | | | Note |
|---------------------|----------|---------------|---|---|------------------|
| | | A | B | C | |
| 1 | 1 | 0 | 1 | 1 | |
| 2 | 3 | 1 | 1 | 1 | |
| 3 | 6 | 1 | 0 | 1 | |
| 4 | 8 | 0 | 1 | 0 | |
| | | 1 | 0 | 0 | |
| | | 1 | 1 | 0 | |
| 5 | 14 | 0 | 0 | 1 | |
| Standby Mode | - | 0 | 0 | 0 | No Signal Output |

Electrical Characteristics ($V_{CC}=12V$, $T_a=25^\circ C$)

| Item | Application Terminal | Symbol | Min | Typ | Max | Unit | Test Condition |
|--|----------------------|----------------------|------|-----|-----|----------|-------------------------|
| Supply Current (Video Input Ch.1 to 5 Select) | (9) | I_{CC1} | 15 | 30 | 50 | mA | |
| | (16) | I_{CC2} | 10 | 20 | 30 | mA | |
| Supply Current (Standby Mode) | (9) | I_{CC1S} | 4 | 10 | 20 | mA | |
| | (16) | I_{CC2S} | 8 | 16 | 30 | mA | |
| Gain | (10),(11) | | 5.5 | 6.0 | 6.5 | dB | |
| Frequency Response | (10),(11) | | -0.5 | 0 | 0.5 | dB | $f=1kHz$ to 5MHz |
| Cross-talk | | | | | -60 | dB | $f=4.2MHz$ |
| Linearity | | | -1 | 0 | 1 | % | |
| Differential Gain | | DG | -1 | 0 | 1 | % | |
| Differential Phase | | DP | -1 | 0 | 1 | deg | |
| Output Dynamic Range | (10),(11) | DR | 4.5 | - | - | V | |
| Switch Control Voltage (High Level) | (2),(7),(15) | V_{CH} | 3.5 | - | - | V | |
| Switch Control Voltage (Low Level) | (2),(7),(15) | V_{CL} | - | - | 0.5 | V | |
| Switch Control Current (High Level) | (2),(7),(15) | I_{CH} | - | - | 0.4 | mA | $V_I \text{ cont}=4.0V$ |
| Switch Control Current (Low Level) | (2),(7),(15) | I_{CL} | - | - | 0.2 | mA | $V_I \text{ cont}=0.5V$ |
| Output Sync Level | (10),(11) | V_{sync} | 2.9 | 3.5 | 4.1 | V | |
| Output Impedance (Power Output) | (10) | | - | - | 10 | Ω | |
| Output Impedance (Small Signal Output) | (11) | | - | - | 50 | Ω | |
| Supply Voltage | (9),(16) | $V_{CC \text{ opr}}$ | 11 | 12 | 13 | V | |

