HA11533NT

T-74-07-01

3-Channel Video Amplifier

The HA11533NT is a 3-channel wide band video signal voltage amplifier. This IC is suitable for a super high resolution CRT display video amplifier.

Features

- 3-channel video amplifier built-in
- Wide bandwidth 100 MHz Min (at –3 dB)
- High output signal level 1.2 Vp-p Min
- Contrast and drive adjustment are built-in
- Less points to adjustment
- Brightness control is common on RGB.
- Signal power supply Vcc = 5.0 to 5.5 V

Ordering Information

Type No.	Package
HA11533NT	DP-24TS

Block Diagram

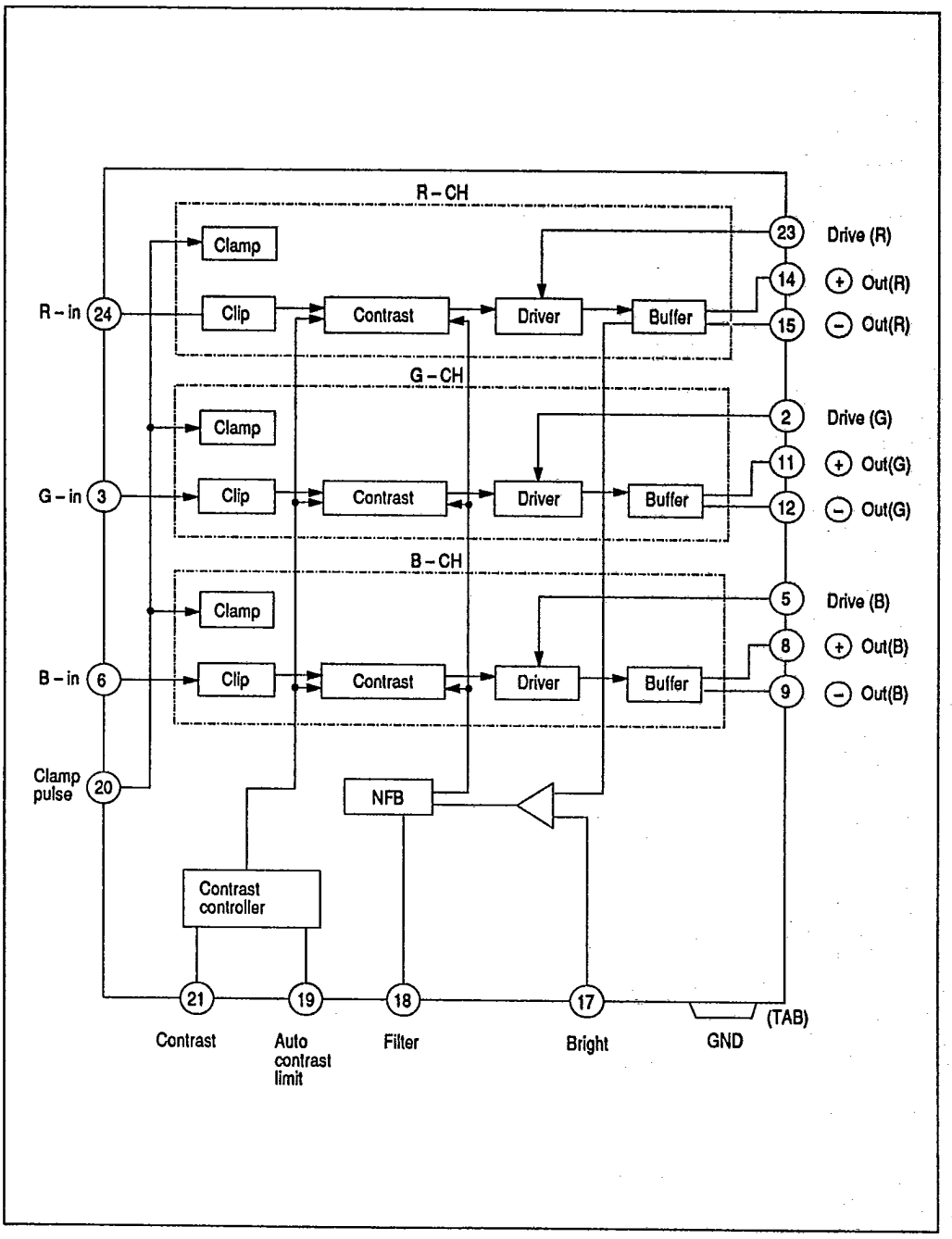

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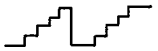
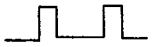
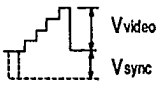
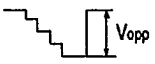
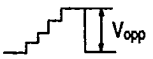
Table 1 Pin Arrangements (Temporary)

Pin No.	Function	Wave Form	Signal Level	Impedance	Remarks
24	Video in (Rch)		0.7 Vpp (typ) 1.1 Vpp (max)	E.F.	Note 1
6	Video in (Bch)				
20	Clamp pulse in		TTL	High (base)	
21	Contrast in	DC	4.5 V (max) to 2.2 V (min)	High (base)	
19	ACL in	DC	Vcc	High (base)	Note 2
3	Video in (Gch)		VIDEO: 0.7 pp (typ) VSYNC: 0.30 pp (typ)	E.F.	
10	Power Vcc (Gch)	DC	5.3 V		
2	Drive in (Gch)	DC	2.6 V to 4.5 V	High (base)	–0 dB @ 3.9 V
12	Video out (– Gch) ○		1.5 V 3.7 V Vopp: 1.47 pp (max)	Less than 42 Ω	@RL = 270 to 1 kΩ
11	Video out (+ Gch) ○				
7	Power Vcc (Bch)	DC	5.3 V		
5	Drive in (Bch)	DC	2.6 V to 4.5 V	High (base)	-0 dB @ 3.9 V

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Pin Arrangements (Temporary) (cont)

17	Bright in	DC	3.6 V to 4.8 V	High (base)	
9	Video out (⊖ Bch)		1.5 V 3.7 V Vopp: 1.47 pp (max)	Less than 42 Ω	@RL = 270 to 1 kΩ
8	Video out (⊕ Bch)				
22	Signal Vcc (Rch)	DC	5.3 V		
18	NFB filter	DC	3.0 V to 3.6 V	High (base)	
24	Drive in (Rch)	DC	2.6 V to 4.6 V	High (base)	–0 dB@3.9 V
15	Video out (⊖ Rch)		1.5 V to 3.7 V Vopp: 1.47 pp (max)	Less than 42 Ω	@RL = 270 to 1 kΩ
14	Video out (⊕ Rch)				
13	Power Vcc (Rch)	DC	5.3 V		
1	Signal Vcc (Gch)	DC	5.3 V		
4	Signal Vcc (Bch)	DC	5.3 V		
16	Signal Vcc (control)	DC	5.3 V		
FINL	Heat sink & GND	DC	0 V		
FINR	Heat sink & GND	DC	0 V		

Notes: 1. E.F.; Emitter follower
2. The input voltage will be less than Vcc voltage when excess current flow into the anode.

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Table 2 Absolute Maximum Ratings (Ta = 25 °C)

Item	Symbol	Rating	Unit	Note
Supply voltage	Vcc	6	V	1
Power dissipation	P_T	2	W	2
Junction temperature	Tj	150	°C	
Operating temperature	Topr	–10 to +70	°C	
Storage temperature	Tstg	–55 to +150	°C	

Notes: 1. Operating supply voltage 5.0 V (min)
2. Refer to derating curve.

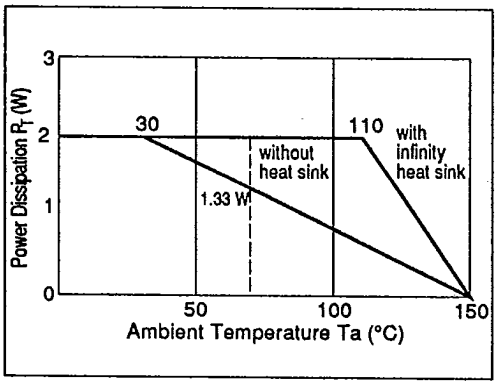

Table 3 Electrical Characteristics (Ta = 25 °C)

Item	Symbol	Min	Typ	Max	Unit
Supply voltage	Vcc	5.0	5.3	5.5	V
Supply current	Icc	—	160	230	mA
Video bandwidth (at –3 dB)	fc	100	180	—	MHz
Maximum voltage gain	Av	5.7	8.2	—	dB
Contrast range	ΔG_{CON}	19	—	—	dB
Drive range	ΔG_{DR}	5	—	—	dB

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Electrical Characteristics (Ta = 25 °C) (cont)

Input resistance	RIn	300	—	—	kΩ
Input capacitance	CIn	—	4	—	pF
Cross talk (at 100 MHz)	CT	—	—	–30	dB
Video input dynamic range	ΔVVL	1.1	1.8	—	V
Contrast trucking	ΔGCON	–1.5	—	1.5	dB
Video output dynamic range	ΔVOUT	1.2	2.0	—	Vpp

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