

DESCRIPTION

The 5071 is a combined two-stage chroma amplifier and functional control circuit. The input signal is received from the video amplifier and applied to terminal No. 2 of the input amplifier stage. The first amplifier stage is part of the ACC system and is controlled by differential adjustment from the ACC input terminal Nos. 1 and 14. The output of the 1st amplifier is directed to terminal No. 6 from where the signal may be applied to the ACC detection system of the 5070 or an equivalent circuit. The output at terminal No. 6 is also applied to terminal No. 7 which is the input to the 2nd amplifier stage. Another output of the 1st amplifier at terminal No. 13 is directed to the killer adjustment circuit.

The dc voltage level at terminal No. 13 rises as the ACC differential voltage decreases with a reduction in the burst amplitude. At a pre-set condition determined by the killer adjustment resistor the killer circuit is activated and causes the 2nd chroma amplifier stage to be cut off. The 2nd chroma amplifier stage is also gain controlled by the adjustment or dc voltage at terminal No. 10. The output of the 2nd chroma amplifier stage is available at terminal No. 9. The typical output termination circuit that is shown, provides differential chroma drive signal to the demodulator circuit. Both amplifier outputs utilize emitterfollowers with short-circuit protection.

FEATURES

- ACC CONTROLLED CHROMA AMPLIFIER
- DC CHROMA GAIN CONTROL
- COLOR KILLER
- AMPLIFIER SHORT-CIRCUIT PROTECTION

ABSOLUTE MAXIMUM RATINGS

(Values at $T_A = 25^{\circ}C$) DC Supply Voltage (Terminal 8 to Terminal 14)

30Vdc

Device Dissipation:

Up to $T_A = +70^{\circ}C$ Above $T_A = +70^{\circ}C$ 530mW **Derate Linearly** at 6.7 mW/°C

Ambient Temperature Range:

 $-40 \text{ to } +85^{\circ}\text{C}$ Operating -65 to +150°C Storage

Lead Temperature (During Soldering): At distance 1/32 in (3.17 mm) from seating plane for 10s max.

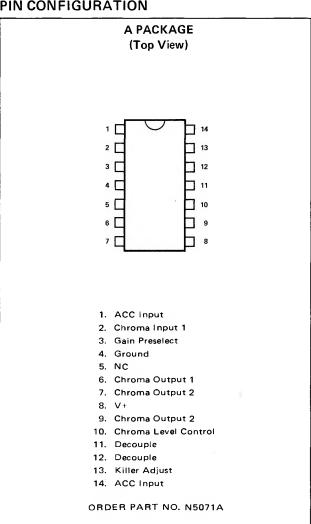
+265°C

14

-5

LINEAR INTEGRATED CIRCUITS

PIN CONFIGURATION



MAXIMUM RATINGS MAXIMUM VOLTAGE & **CURRENT RATINGS** $T_A = 25^{\circ}C$ Voltage (Note 1) Current

TERM MIN. MAX. **TERM** 1 lo NO. **VOLTS VOLTS** NO. mA mΑ +15 5 1.0 1 -5 2 -5 +5 2 5 1.0 0 6 +24 6 20 1.0 7 -5 +5 5 1.0 8 0 +30 9 1.0 20 0 +24 12 1.0 5 9 10 0 +24 14 1.0 11 0 +24 0 12 +20 0 13 +20

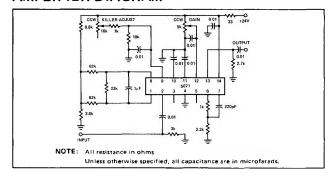
+15

1. With reference to terminal No. 4 and with +24V on terminal No. 8 except for the rating given for terminal No. 8.

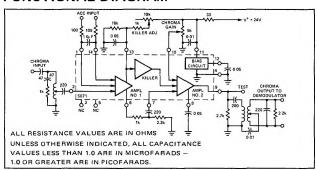
ELECTRICAL CHARACTERISTICS $(T_A = 25^{\circ}C \text{ and } V^{+} = +24V)$

	TEST CONDITIONS	LIMITS			
PARAMETERS		MIN	TYP	MAX	UNITS
S:	TATIC CHARACTERISTICS	•			
Voltages					
Bias Reference Terminal	S ₁ Open, S ₂ Open		17.3		l v
Ampl No. 1 Chroma Input	S ₁ Open, S ₂ Open		1.75		V
Ampl No. 1 Chroma Output Balanced	S ₁ Open, S ₂ Open		20		l v
Unbalanced	S ₁ Open, S ₂ Closed		13.5		V
Ampl No. 2 Chroma Input	S ₁ Open, S ₂ Open		1.5		V
Ampl No. 2 Chroma Output	S ₁ Closed, S ₂ Open		20.6		V
Supply Current	S ₁ Open, S ₂ Open	17		31	mA
DY	NAMIC CHARACTERISTICS				
Amplifier No. 1 Voltage Gain	E _q = 30 mVrms Measure V6	14			dB
Amplifier No. 2 Voltage Gain	V_{g}^{g} = 10 Vrms	Ī	14		dB
Max. Chroma Output Voltage	9		2		Vrms
10% Chroma Gain Control Reference Voltage	E _g = 50 mVrms, adjust Chroma	1	20.2		V
	Gain Control to Change Vo to				1
	10% of Maximum Chroma Output				
Output Voltage Killer Off	S ₁ in Position 2			12	mV
	E _a = 50 mVrms, adjust "Killer				rms
	Adjust" for an abrupt decrease				
	in Vg				
Output Voltage, Chroma Off	E _q = 50 Vrms, adjust Chroms			12	mV
	control to min. Chroma Output				rms
Bandwidth					
Amplifier No. 1			12		MHz
Amplifier No. 2			30		MHz
Ampl. No. 1 Input Impedance			2		kΩ
Ampl. No. 1 Output Impedance			4		pF Ω
Ampl. No. 2 Input Impedance			35		
Ampi, No. 2 input impedance			2.1		kΩ
Ampl. No. 2 Output Impedance			3.5 85		pF Ω

AMPLIFIER DIAGRAM



FUNCTIONAL DIAGRAM



SCHEMATIC DIAGRAM

