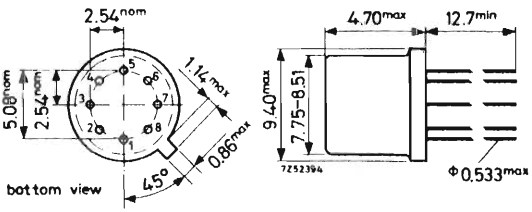
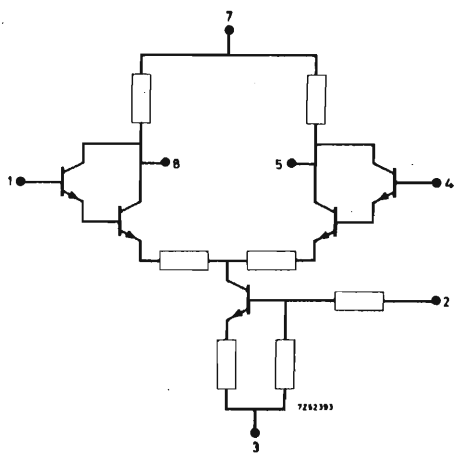
DIFFERENTIAL AMPLIFIER

The TAA201 is a silicon monolithic integrated differential amplifier using two Darlington connected pairs with a constant-current source for high input impedance, excellent input-output isolation and good temperature stability. The TAA201 can be used as a differential amplifier or as a single-ended input or output amplifier giving both inverting and non-inverting operation.



QUICK REFERENCE DATA			
Ambient temperature		25	°C
Positive supply voltage		12	V
Negative supply voltage		6	V
Voltage gain	typ.	60	
Common mode rejection	typ.	75	dB
Input offset voltage	typ.	7	mV
Input offset voltage drift	typ.	10	μV/°C
Frequency response (−3 dB)	typ.	300	kHz
Input impedance	typ.	150	kΩ
Output impedance	typ.	8	kΩ
Output voltage range (peak-peak)	typ.	14.5	V
Package		A1	(TO-78)

CIRCUIT DIAGRAM



1. Input
2. Ground (supply return)
3. Negative supply
4. Input
5. Output
6. (not connected)
7. Positive supply
8. Output

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CHARACTERISTICS

No load unless otherwise specified. $V_7 = 12$ V; $-V_3 = 6$ V.

		T_{amb} (°C)			
		−55	+25	+75	
Differential voltage gain	min.		40		
	typ.	67	60	56	
Input offset voltage	typ.	4.0	7.0	7.0	mV
	max.		10.0		mV
Input offset voltage change with temperature	typ.		10		μV/°C
	max.		20		μV/°C
Input bias current	typ.		0.3		μA
	max.		1.2		μA
Input offset current	typ.	8.0	8.0	5.0	nA
	max.		30		nA
Input offset current change with temperature	typ.		0.5		nA/°C
	max.		3.0		nA/°C
Common mode rejection ratio	min.		70		dB
0 to 10 kHz	typ.		75		dB
100 kHz	typ.		59		dB
Frequency response (−3 dB)	min.		0 to 150		kHz
	typ.		0 to 300		kHz
Quiescent input voltage (V_1; V_4)	typ.	0	0	0	mV
Quiescent output voltage (V_8; V_5)	typ.		7.0		V
	max.		8.5		V
Max. output voltage (peak-peak) at pin 8 and at pin 5	min.		12.0		V
	typ.		14.5		V
Differential input impedance	min.		75		kΩ
	typ.		150		kΩ
Single-ended output impedance	typ.		8.0		kΩ
	max.		10.0		kΩ
Positive supply current (I_7)	typ.		0.9		mA
Negative supply current ($-I_3$)	typ.		2.6		mA
Power dissipation	typ.		26		mW
	max.		33		mW

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RATINGS (Limiting values) [1])

Positive supply voltage (V_7)	max.	25	V
Negative supply voltage ($-V_3$)	max.	24	V
Power dissipation	max.	200	mW
Storage temperature (T_{stg})		−65 to +175	°C
Operating ambient temperature (T_{amb})		−55 to +75	°C

1) Limiting values according to the Absolute Maximum System as defined in IEC publication 134.

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