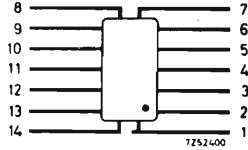


## DIFFERENTIAL AMPLIFIER

The TAA202 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 TAA202 can be used as a differential amplifier or as a single-ended input or output amplifier giving both inverting and non-inverting operation.

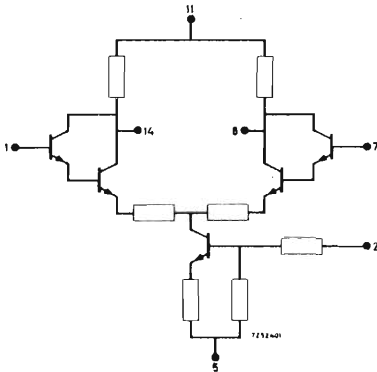
Operating ambient temperature range:  $-55$  to  $+125$  °C



### QUICK REFERENCE DATA

Ambient temperature	25 °C
Positive supply voltage	12 V
Negative supply voltage	6 V
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Voltage gain	typ. 50
Common mode rejection	typ. 80 dB
Input offset voltage	max. 7.0 mV
Input offset voltage drift	typ. 10 $\mu$ V/°C
Frequency response (-3 dB)	typ. 150 kHz
Input impedance	typ. 1.0 M $\Omega$
Output impedance	typ. 8 k $\Omega$
Output voltage range (peak-peak)	typ. 13 V
Package	E2 (TO-84 flat-pack)

### CIRCUIT DIAGRAM



1. Input
2. Ground (supply return)
3. (not connected)
4. (not connected)
5. Negative supply
6. (not connected)
7. Input
8. Output
9. (not connected)
10. (not connected)
11. Positive supply
12. (not connected)
13. (not connected)
14. Output

7Z3 1638

## CHARACTERISTICS

No load unless otherwise specified.  $V_{I1} = 12 \text{ V}$ ;  $-V_5 = 6 \text{ V}$ ;  $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$

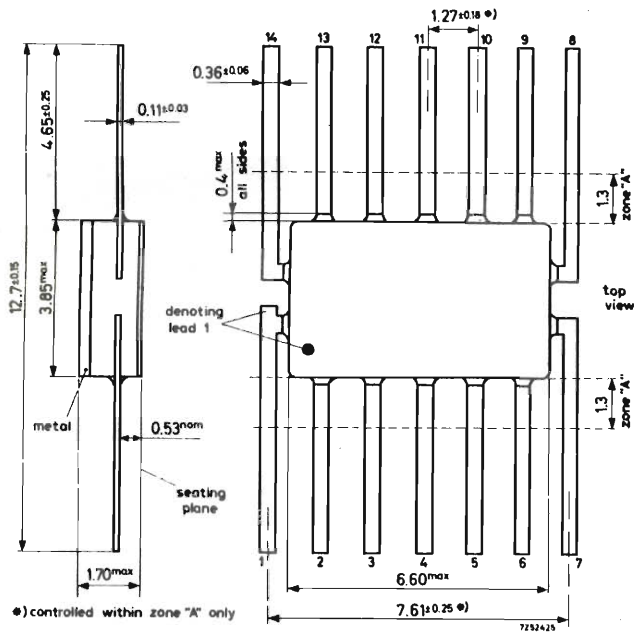
Differential voltage gain	{	min.	40
		typ.	50
		max.	65
Input offset voltage		max.	7.0 mV
Input offset voltage change with temperature		typ.	10 $\mu\text{V}/^\circ\text{C}$
Common mode rejection ratio, 0 to 10 kHz	{	min.	70 dB
		typ.	80 dB
Frequency response (-3 dB)		typ.	0 to 150 kHz
Quiescent input voltage ( $V_1$ ; $V_7$ )		typ.	0 mV
Quiescent output voltage ( $V_8$ ; $V_{14}$ )	{	min.	6.0 V
		typ.	7.0 V
		max.	8.0 V
Max. output voltage (peak-peak) at pin 8 and at pin 14		typ.	13.0 V
Differential input impedance	{	min.	300 $\text{k}\Omega$
		typ.	1000 $\text{k}\Omega$
Single-ended output impedance	{	typ.	8.0 $\text{k}\Omega$
		max.	13.0 $\text{k}\Omega$
Positive supply current ( $I_{I1}$ )		typ.	0.9 mA
Negative supply current ( $-I_5$ )		typ.	2.6 mA
Power dissipation		typ.	26 mW

## RATINGS (Limiting values) <sup>1)</sup>

Positive supply voltage ( $V_{11}$ )	max. 25 V
Negative supply voltage ( $-V_5$ )	max. 14 V
Power dissipation	max. 200 mW
Storage temperature ( $T_{stg}$ )	-65 to +175 °C
Operating ambient temperature ( $T_{amb}$ )	-55 to +125 °C

## PACKAGE OUTLINE

Dimensions in mm



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