

LOW-LEVEL AMPLIFIER

The TAA263 is a semiconductor integrated amplifier in a 4-lead TO-72 metal envelope. It comprises a three-stage, direct coupled low-level amplifier for use from d.c. up to frequencies of 600 kHz.

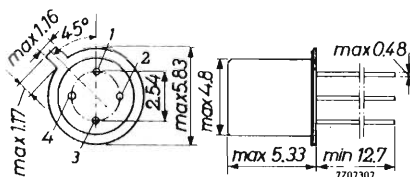
QUICK REFERENCE DATA

Supply voltage	V_B	max.	8 V
Output voltage	V_{3-4}	max.	7 V
Output current	I_3	max.	25 mA
Transducer gain at $P_O = 10$ mW			
$R_L = 150 \Omega$; $f = 1$ kHz	G_{tr}	typ.	77 dB
Operating ambient temperature	T_{amb}		-20 to +100 °C

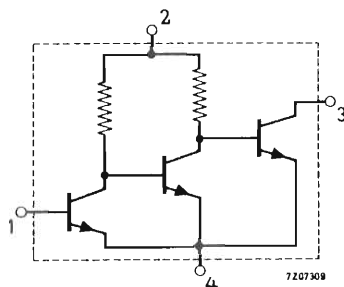
PACKAGE

TO-72

Dimensions in mm



EQUIVALENT CIRCUIT



7Z3 0992

RATINGS (Limiting values) ¹⁾

Voltages

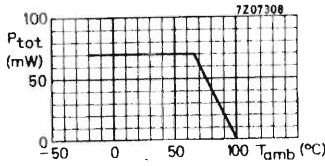
Supply voltage	V_B	max.	8 V
Output voltage	V_{3-4}	max.	7 V
Input voltage	$-V_{1-4}$	max.	5 V

Currents

Output current	I_3	max.	25 mA
Input current	I_1	max.	10 mA

Power dissipation

Total power dissipation up to $T_{amb} = 65^\circ C$	P_{tot}	max.	70 mW
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Temperatures

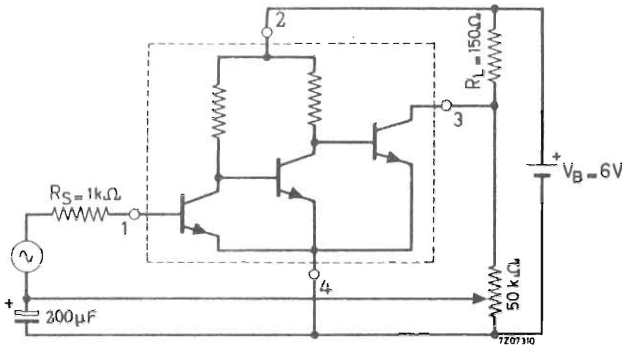
Storage temperature	T_{stg}	-65 to +100 °C
Operating ambient temperature	T_{amb}	-20 to +100 °C

¹⁾ Limiting values according to the Absolute Maximum System as defined in IEC publication 134. 7Z3 0993

CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$

Test circuit:



Currents

Output current	I_3	typ.	12 mA
Total current drain (no signal)	$I_2 + I_3$	<	16 mA

Over-all small signal current gain

$f = 1\text{ kHz}$	$h_{f\text{ tot}}$	typ.	$5 \cdot 10^5$
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Transducer gain

$f = 1\text{ kHz}; P_O = 10\text{ mW}$	G_{tr}	>	70 dB
		typ.	77 dB

Output power at $f = 1\text{ kHz}; d_{tot} = 10\%$

P_O	>	10 mW
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$d_{tot} = 5\%$

P_O	>	8 mW
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Noise figure

$f = 400\text{ Hz to } 6\text{ kHz}$	F	typ.	5 dB
		<	10 dB

$f = 450\text{ kHz}; \Delta f = 5\text{ kHz}$	F	typ.	2.7 dB
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7Z3 0994

CHARACTERISTICS (continued)

 $T_{amb} = 25\text{ }^{\circ}\text{C}$ y parameters (point 4 common connection) $V_B = 6\text{ V}; I_3 = 3\text{ mA}; V_{3-4} = 4.2\text{ V}$ $f = 1\text{ kHz}$

Input admittance	$y_i = g_i$	typ.	20 $\mu\Omega^{-1}$
Transfer admittance	$y_f = g_f$	typ.	11 Ω^{-1}
Output admittance	$y_o = g_o$	typ.	60 $\mu\Omega^{-1}$

 $f = 450\text{ kHz}$

Input conductance	g_i	typ.	15 $\mu\Omega^{-1}$
Input capacitance	C_i	typ.	14 pF
Transfer admittance	$ y_f $	typ.	9.4 Ω^{-1}
Phase angle of transfer admittance	φ_f	typ.	125 $^{\circ}$
Output conductance	g_o	typ.	20 $\mu\Omega^{-1}$
Output capacitance	C_o	typ.	13 pF