LOW-LEVEL AMPLIFIER

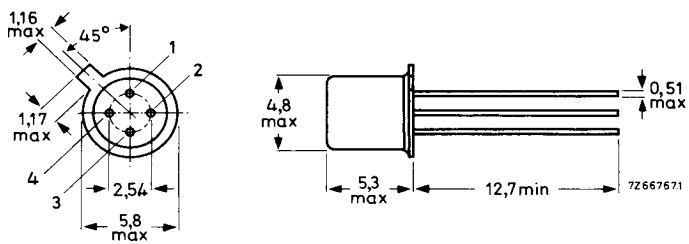
The TAA263 is a semiconductor integrated amplifier in a 4-lead TO-72 metal envelope. It comprises a three-stage, direct coupled low-level amplifier for use from d.c. up to frequencies of 600 kHz.

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 Ω; f = 1 kHz	G_{tr}	typ.	77	dB
Operating ambient temperature	T_{amb}	−20 to +100		°C

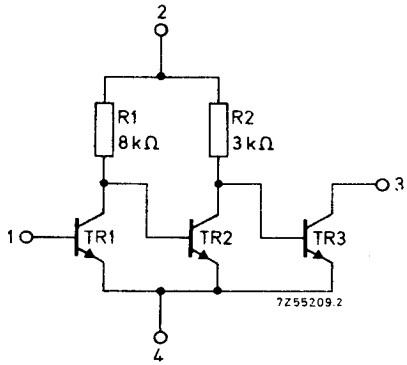
PACKAGE OUTLINE

Dimensions in mm

TO-72 (SOT-18/17)

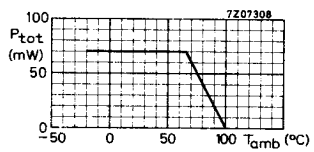


CIRCUIT DIAGRAM



RATINGS Limiting values in accordance with the Absolute Maximum System (IEC134)

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 $T_{amb} = 65\ ^oC$	P_{tot}	max.	70	mW

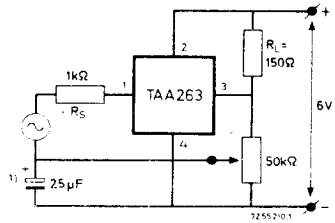


Temperatures				
Storage temperature	T_{stg}		−55 to +125	^oC
Operating ambient temperature (see derating curve above)	T_{amb}		−20 to +100	^oC

CHARACTERISTICS

T_{amb} = 25 °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 kHz	$h_{f\ tot}$	typ.	5.10^5	
Transducer gain				
f = 1 kHz; P_o = 10 mW	G_{tr}	>	70	dB
		typ.	77	dB
Output power at f = 1 kHz; d_{tot} = 10%	P_o	>	10	mW
d_{tot} = 5%	P_o	>	8	mW
Noise figure				
f = 400 Hz to 6 kHz	F	typ.	5	dB
		<	10	dB
f = 450 kHz; Δf = 5 kHz	F	typ.	2.7	dB

1) Z ≤ 10 Ω at f = 1 kHz

CHARACTERISTICS (continued) T_{amb} = 25 °C

y parameters (point 4 common connection)

V_B = 6 V; I_3 = 3 mA; V_{3-4} = 4.2 V

f = 1 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 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°	
Output conductance	g_o	typ.	20	$\mu\Omega^{-1}$
Output capacitance	C_o	typ.	13	pF