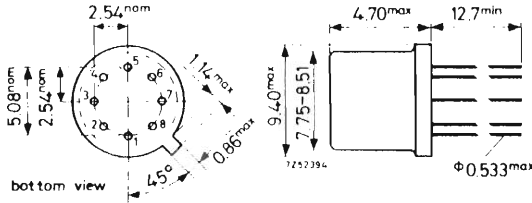


WIDE-BAND AMPLIFIER

The TAA231 is a silicon monolithic integrated wide-band amplifier comprising two direct coupled stages with negative feedback and shunt peaking. External connections to all circuit nodes, such as for a.g.c. and tuning purposes, allow a maximum in custom application flexibility.



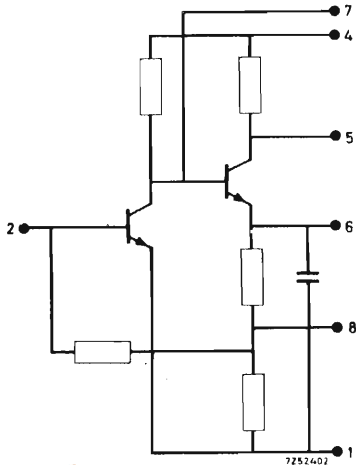
Operating ambient temperature range: 0 to +75 °C

QUICK REFERENCE DATA

Ambient temperature	25 °C
Single supply voltage (V_4)	12 V

Power gain	typ. 23 dB
Cut-off frequency (-3 dB)	typ. 45 MHz
Gain control range	typ. 20 dB
Noise figure	typ. 4 dB
Power dissipation	typ. 42 mW
Package	A1 (TO-78)

CIRCUIT DIAGRAM



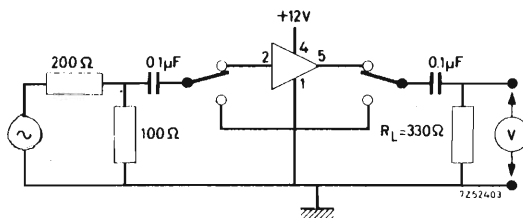
1. Ground (supply return)
2. Input and a.g.c.
3. (not connected)
4. Positive supply
5. Output at collector
6. Output at emitter
7. a.g.c.
8. Feedback network

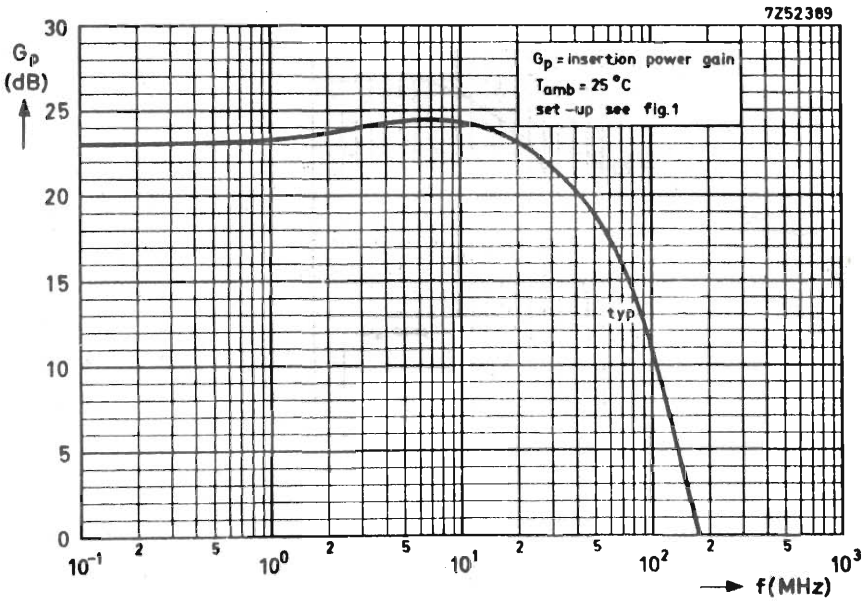
7Z3 1645

CHARACTERISTICS at $V_4 = 12\text{ V}$

		$T_{amb} \text{ } ^\circ\text{C}$			
		0	+25	+75	
Insertion power gain (Set-up see Fig. 1; other conditions see page 4)	{ min.		18		dB
	{ typ.	23	23	22	dB
Cut-off frequency (-3 dB) (Set-up see Fig. 1)	{ min.		30		MHz
	{ typ.		45		MHz
Noise figure bandwidth 100 kHz source resistance 100 Ω	typ.		4		dB
Input impedance at 60 MHz; resistance capacitance	typ.		83		Ω
	typ.		22		pF
Output impedance at 60 MHz; resistance capacitance	typ.		1900		Ω
	typ.		15		pF
Gain control range at pin 2 (page 3) pin 7 (page 3)	typ.		16		dB
	typ.		20		dB
Output voltage range (peak to peak) at pin 5 unloaded	typ.	2.5	2.5	2.0	V
	typ.	0.55	0.55	0.50	V
at pin 6 unloaded	typ.		6.0	4.0	V
	typ.		0.70	0.45	V
Supply current (I_4)	{ typ.	3.7	3.5	3.2	mA
	{ max.		7.0		mA
Power dissipation	typ.	44	42	38	mW

Fig. 1. Set-up for measuring the insertion power gain

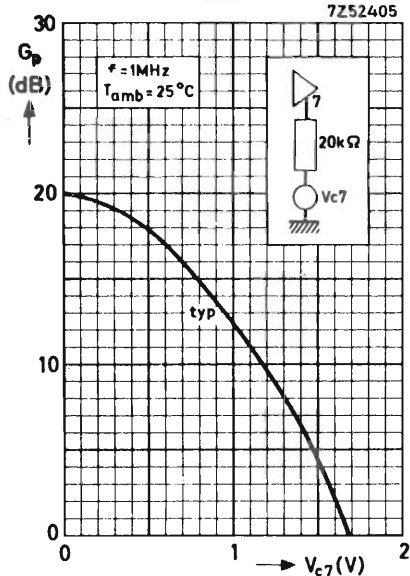
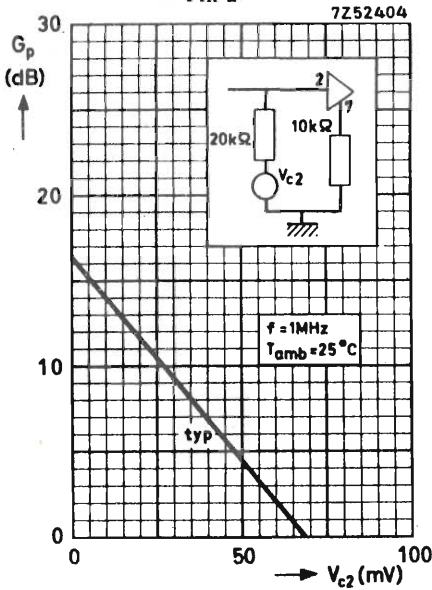




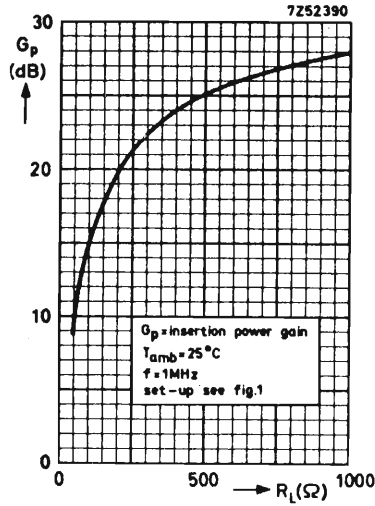
Insertion power gain versus a.g.c. voltage, test set-up Fig. 1, modified as shown.

Pin 2

Pin 7



7Z3 1647



RATINGS (Limiting values) ¹⁾

Supply voltage (V_4)	max. 16.0 V
Storage temperature (T_{stg})	-65 to +175 °C
Operating ambient temperature (T_{amb})	0 to 75 °C