

Monolithic Integrated Circuit

Application: Audio power amplifier, especially for TV-receivers

Features:

- High output current, up to 1.5 A
- Wide range of supply voltage, 5 to 30 V
- High output power
 - without heat sink 2.5 W
 - with heat sink 5.0 W
- Very high efficiency 70%

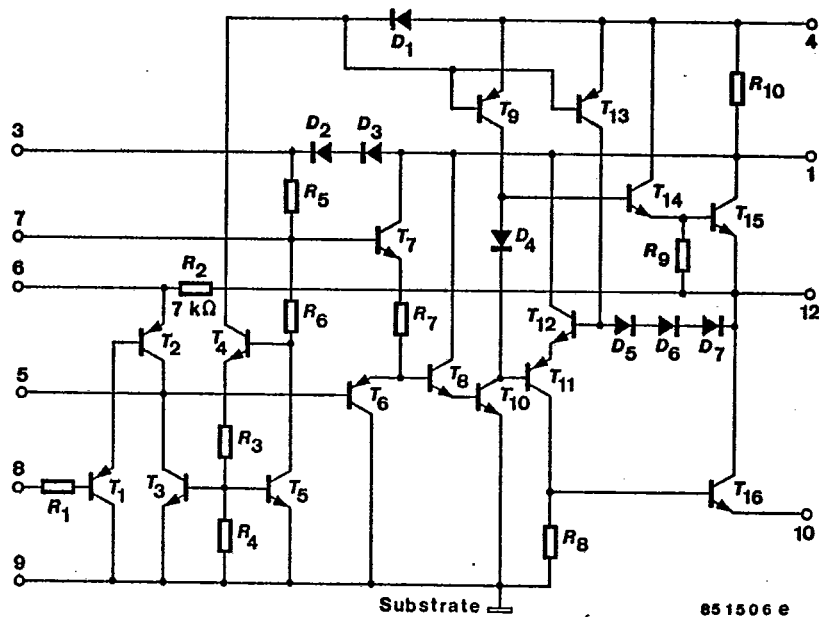


Fig.1 Diagram and pin connections

Absolute maximum ratings

Reference point Pin 9,10

Supply voltage	Pin 1, 3	V_S	30	V
Surge output current (non repetitive)	Pin 12	I_{OP}	2	A
Peak output current (repetitive)		I_{OM}	1.5	A
Power dissipation	Fig. 2, 3	P_{tot}	1	W
$T_{amb} = 80$		P_{tot}	5	W
$T_{case} = 90^\circ\text{C}$		T_J	+150	$^\circ\text{C}$
Junction temperature		T_{stg}	-40...+150	$^\circ\text{C}$
Storage temperature range				

T1.2/1325.0586 E1

TBA 800

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Thermal resistance		Min.	Typ.	Max.	
Junction ambient	R_{thJA}			70	K/W
Junction case	R_{thJC}			12	K/W

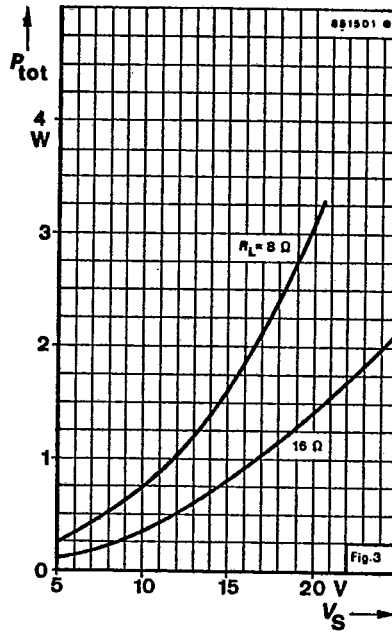
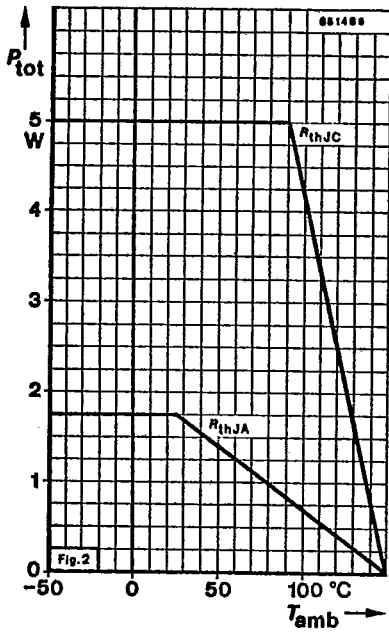
Electrical characteristics

$V_S = 24 V$, $R_f = 56 \Omega$, reference points Pin 9, 10, $T_{amb} = 25^\circ C$, unless otherwise specified

Supply voltage range	Pin 1, 3	V_S	5	30	V	
Quiescent output voltage	Pin 12	V_{QS}	11	12	13	V
Quiescent drain current	Pin 1, 3	I_{SB}		9	20	mA
Input current	Pin 8	I_i		1	5	μA
Output power $R_L = 16 \Omega$, $f = 1 kHz$, $d = 10\%$		P_o	4.4	5		W
Input voltage	Pin 8	V_i		220		mV
Input voltage $P_o = 5 W$, $f = 1 kHz$, $R_L = 16 \Omega$	Pin 8	V_i		80		mV
Input resistance	Pin 8	R_i		5		M Ω
Band width (-3 dB) $R_L = 16 \Omega$, $C_3 = 330 pF$		B		40...20 000		Hz
Distortion $R_L = 16 \Omega$, $f = 1 kHz$, $P_o = 50 mW$ to $2.5 W$	Fig. 4, 6, 7.	d		0.5		%
Voltage gain $R_L = 16 \Omega$, $f = 1 kHz$	Fig. 4					
Open loop		G_{vof}		80		dB
Closed loop		G_{vol}	39	42	45	dB
Input noise voltage $B = 40...20000 Hz$	Pin 8	V_{ni}		5		μV
Input noise current $B = 40...20000 Hz$	Pin 8	I_{ni}		0.2		nA
Efficiency $P_o = 4 W$, $R_L = 16 \Omega$, $f = 1 kHz$		η		70		%

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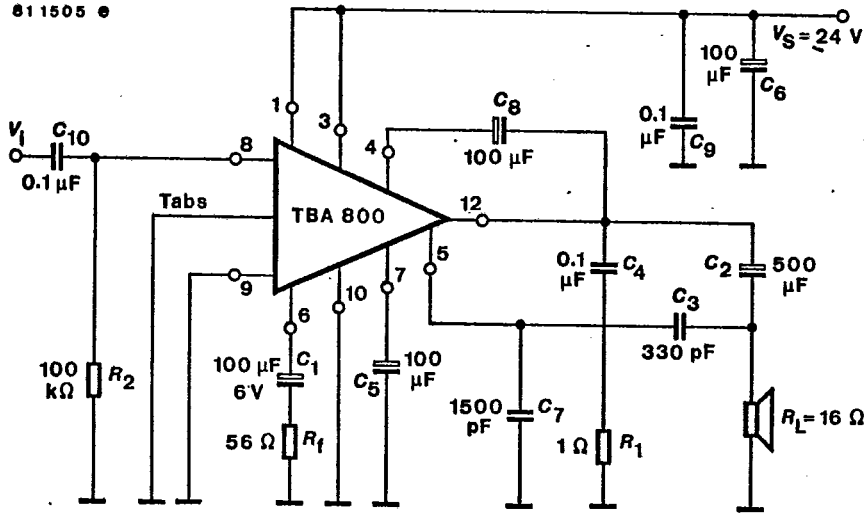
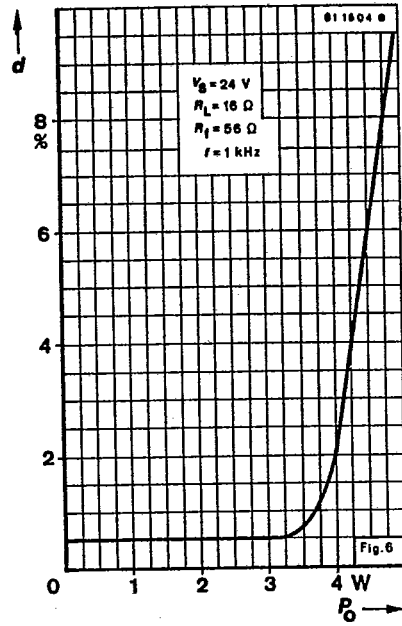
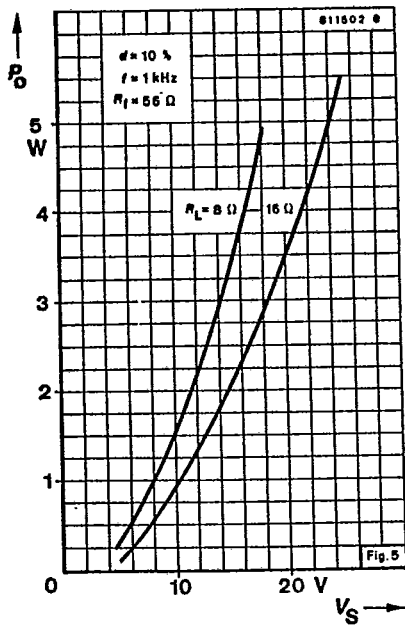
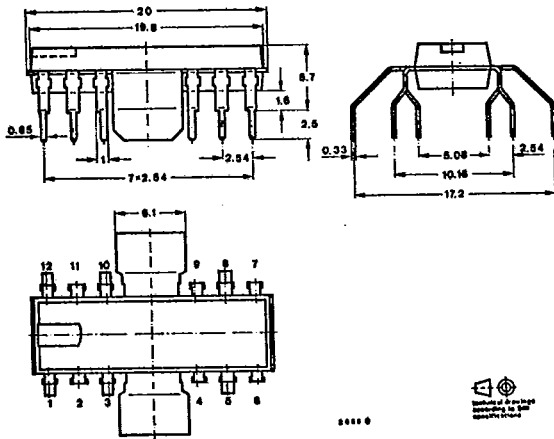


Fig. 4 Test circuit for: P_o, P_{tot}, d, η

Supply voltage must be disconnected before inserting the integrated circuit in the socket.



Dimensions in mm



QIP-Special
Weight max. 1.5 g