T-74-09-01

CATV AMPLIFIER MODULE

Hybrid amplifier module for application in CATV/MATV amplifier systems operating at frequencies from 40 MHz up to 860 MHz.

Features:

- excellent linearity
- extremely low noise
- optimum reliability ensured by TiPtAu metallized crystals, silicon nitride glass barrier and rugged construction

QUICK REFERENCE DATA

Frequency range	f	40 to 860	MHz	
Source impedance and load impedance	$Z_S = Z_L$	75	Ω	
Power gain at f = 50 MHz	G_p	17 ± 0,5	dB	
Slope cable equivalent f = 40 MHz to 860 MHz	SL	0,2 to 1,2	dB	
Flatness of frequency response f = 40 MHz to 860 MHz	FL	max. ± 0,5	dB	←
Return losses at input and output f = 40 MHz (decrease 1,5 dB/octave)	S_{11-22}	min. 20	dB	
Output voltage at d_{im} = 60 dB (DIN 45004, par. 6.3: 3-tone) $f_{(p+q-r)}$ = 339,25 MHz $f_{(p+q-r)}$ = 849,25 MHz	V_o	 min. 61 min. 60	 dBmV dBmV	 ←
2nd order distortion $f_{(p+q)}$ = 750 MHz	d_2	max. −53	dB	←
Noise figures f = 350 MHz f = 860 MHz	F	 max. 7,5 max. 8,0	 dB dB	
D.C. supply voltage	$+V_B$	= 24	V*	
Total d.c. current consumption V_B = + 24 V	I_{tot}	typ. 240	mA	
Operating case temperature	T_c	−20 to 100	°C	

MECHANICAL DATA

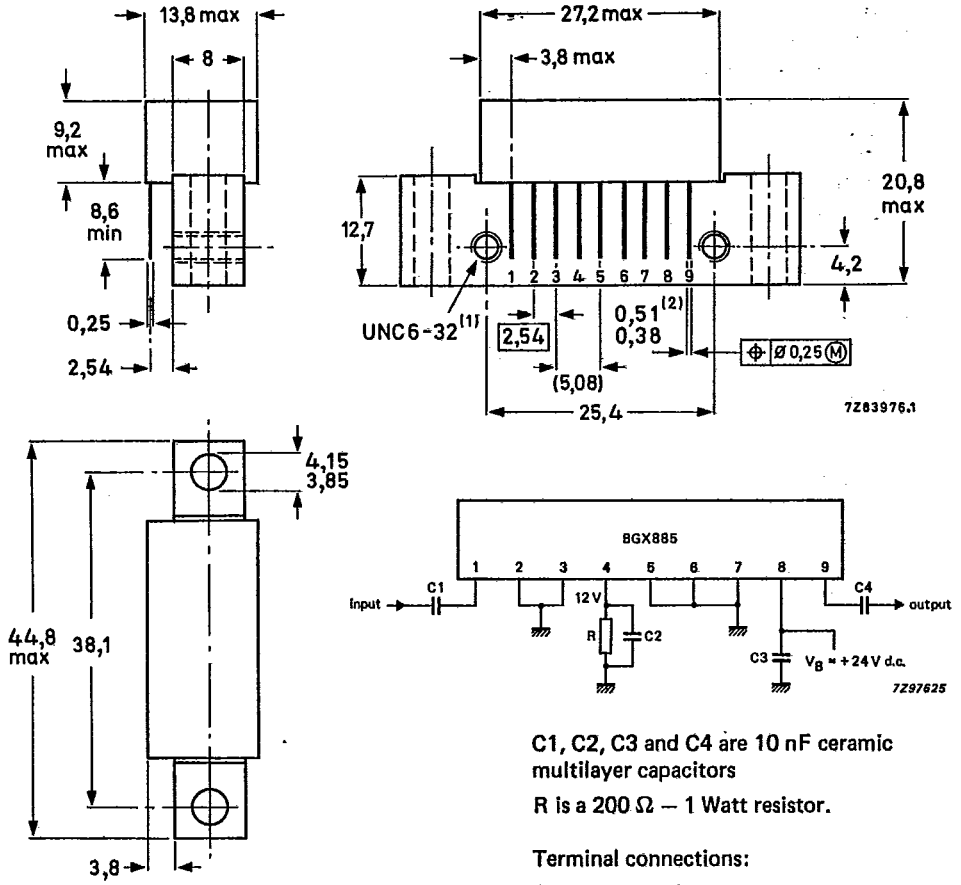
SOT-115 (see Fig. 1).

* The module normally operates at V_B = 24 V, but is able to withstand incidental supply transients up to 30 V.

MECHANICAL DATA

Dimensions in mm

Fig. 1 SOT-115.



C1, C2, C3 and C4 are 10 nF ceramic multilayer capacitors

R is a 200 Ω – 1 Watt resistor.

Terminal connections:

1	= input
2, 3, 5, 6, 7	= common
8	= + V_B (24 Vdc)
9	= output
4	= 12 V–60 mA supply terminal

(1) Screw 6-32UNC-2A available upon request.

See "Mounting and Soldering Recommendations".

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

R.F. input voltage	V_i	max.	60 dBmV
Storage temperature	T_{stg}	–40 to + 100	°C
Operating case temperature	T_c	–20 to + 100	°C

CHARACTERISTICS

Supply voltage V_B = + 24 V; $Z_S = Z_L$ = 75 Ω; T_c = 30 °C

Power gain at f = 50 MHz	G_p		17 ± 0,5	dB
Slope cable equivalent f = 40 MHz to 860 MHz	SL		0,2 to 1,2	dB
Flatness of frequency response f = 40 MHz to 860 MHz	FL	max.	± 0,5	dB ←
Return losses at input and output $Z_S = Z_L$ = 75 Ω f = 40 MHz Decrease per octave *	S_{11-22}	min.	20 1,5	dB dB
Voltage output at d_{im} = −60 dB (DIN 45004B, par. 6.3: 3-tone) $V_p = V_o$; f_p = 341,25 MHz $V_q = V_p$−6 dB; f_q = 348,25 MHz $V_r = V_p$−6 dB; f_r = 350,25 MHz Measured at $f_{(p+q-r)}$ = 339,25 MHz	V_o	min.	61	dBmV
$V_p = V_o$; f_p = 851,25 MHz $V_q = V_p$−6 dB; f_q = 858,25 MHz $V_r = V_p$−6 dB; f_r = 860,25 MHz Measured at $f_{(p+q-r)}$ = 849,25 MHz	V_o	min.	60	dBmV ←
Second harmonic distortion V_p = 59 dBmV at f_p = 350 MHz V_q = 59 dBmV at f_q = 400 MHz Measured at $f_{(p+q)}$ = 750 MHz	d_2	max.	−53	dB ←
Noise figures f = 350 MHz f = 860 MHz	F	max. max.	7,5 8,0	dB dB
Total d.c. current consumption	I_{tot}	typ. max.	220 240	mA mA

* S_{11-22} has a minimum of 10 dB at f between 800 MHz and 860 MHz.