

CATV AMPLIFIER MODULES

Hybrid amplifier modules for CATV systems operating at frequencies up to 450 MHz.

BGY70: 12,5 dB input amplifier module;

BGY71: 12,5 dB output amplifier module.

Features:

- excellent linearity;
- extremely low noise;
- optimal reliability ensured by TiPtAu metallized crystals, silicon nitride passivation and rugged construction.

QUICK REFERENCE DATA

		BGY70	BGY71
Frequency range	f	40 to 450	40 to 450 MHz
Source impedance and load impedance	$Z_S = Z_L$	= 75	75 Ω
Power gain at f = 50 MHz	G_p	12,5 \pm 0,4	12,5 \pm 0,4 dB
Slope cable equivalent f = 40 MHz to 450 MHz		0,5 to 2	0,5 to 2 dB
Flatness of frequency response f = 40 MHz to 450 MHz		\leq \pm 0,2	\pm 0,2 dB
Return losses at input and output f = 40 MHz to 450 MHz		\geq 18	18 dB
Output voltage at $d_{im} = -60$ dB (DIN 45004B, par. 6.3: 3-tone)	V_o	\geq 62,5	65 dBmV ←
2nd order distortion at channel R $V_o = 50$ dBmV on channel 2 and 13	d_2	\leq -71	-73 dB
Composite triple beat 52 channels $V_o = 46$ dBmV		\leq -55	-59 dB
Output capability $X_{mod} = -57$ dB; 52 channels flat	V_o	\geq 46,5	49,5 dBmV
Noise figure f = 40 MHz to 450 MHz	F	\leq 7,5	8,5 dB
D.C. supply voltage	+ V_B	= 24	24 V*
Total d.c. current consumption at $V_B = +24$ V	I_{tot}	typ. 160	200 mA
Operating mounting base temperature	T_{mb}	-20 to +90	-20 to +90 $^{\circ}$ C

MECHANICAL DATA

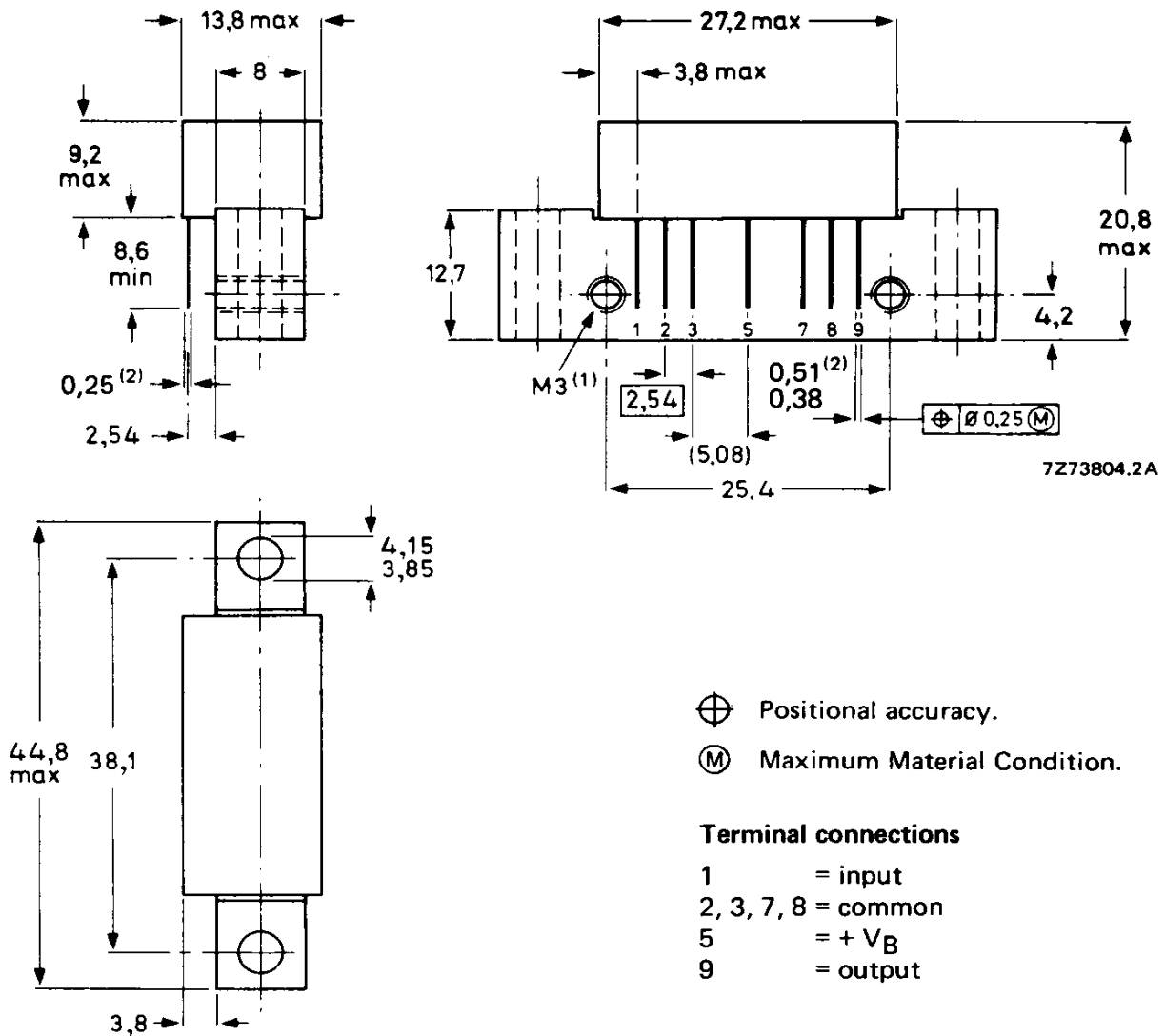
SOT-115 (see Fig. 1).

* The modules normally operate at $V_B = 24$ V, but are able to withstand supply transients up to 30 V.

MECHANICAL DATA

Dimensions in mm

Fig. 1 SOT-115.



→ (1) Will become 6-32UNC-2B in the course of 1983. Screw 6-32UNC-2A available upon request (see Accessory).

(2) Leads available in gold-plated and tin-plated execution.

Soldering recommendations

The maximum permissible temperature of the soldering iron is 260 °C for a contact time of maximum 3 s, when the soldered joints are 3 mm or more from the module.

RATINGS

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

R.F. input voltage	V_i	max.	67 dBmV
Storage temperature	T_{stg}		-40 to +100 °C
Operating mounting base temperature	T_{mb}		-20 to +90 °C*

* With a heatsink $\leq 4,7$ K/W for the BGY71, and $\leq 5,8$ K/W for the BGY70 a maximum ambient temperature of +65 °C is permissible. (K/W is SI unit for °C/W).

CHARACTERISTICS

Supply voltage $V_B = +24$ V; $T_{amb} = 25$ °C

		BGY70	BGY71
Power gain at $f = 50$ MHz	G_p	$12,5 \pm 0,4$	$12,5 \pm 0,4$ dB
Slope cable equivalent $f = 40$ MHz to 450 MHz		0,5 to 2	0,5 to 2 dB
Flatness of frequency response $f = 40$ MHz to 450 MHz	\leq	$\pm 0,2$	$\pm 0,2$ dB
Return losses at input and output $Z_S = Z_L = 75 \Omega$; $f = 40$ MHz to 450 MHz	\geq	18	18 dB
Output voltage at $d_{im} = -60$ dB (DIN 45004B, 6.3: 3-tone) $V_p = V_o$; $f_p = 387,25$ MHz $V_q = V_o - 6$ dB; $f_q = 394,25$ MHz $V_r = V_o - 6$ dB; $f_r = 396,25$ MHz Measured at $f_{(p+q-r)} = 385,25$ MHz	$V_o \geq$	61	63,5 dBmV
Output voltage at $d_{im} = -60$ dB (DIN 45004B, par. 6.3: 3-tone) $V_p = V_o$; $f_p = 287,25$ MHz $V_q = V_o - 6$ dB; $f_q = 294,25$ MHz $V_r = V_o - 6$ dB; $f_r = 296,25$ MHz Measured at $f_{(p+q-r)} = 285,25$ MHz	$V_o \geq$	62,5	65 dBmV
2nd order distortion $V_o = 50$ dBmV; channel 2 $V_o = 50$ dBmV; channel 13 Measured at channel R	$d_2 \leq$	-71	-73 dB
$V_o = 50$ dBmV; channel G $V_o = 50$ dBmV; channel N Measured at channel H 14	d_2 typ.	-68	-70 dB
Composite triple beat 52 channels $V_o = 46$ dBmV; channel H 14	\leq	-55	-59 dB
Output capability on channel H 14 $X_{mod} = -57$ dB; 52 channels flat	$V_o \geq$	46,5	49,5 dBmV
Noise figure $f = 40$ MHz to 450 MHz	$F \leq$	7,5	8,5 dB
Total d.c. current consumption	I_{tot} typ. \leq	160 180	200 mA 220 mA