

DATA SHEET

BGY586; BGY587 CATV amplifier modules

Product specification
File under Discrete Semiconductors, SC16

February 1995

Philips Semiconductors



PHILIPS

CATV amplifier modules

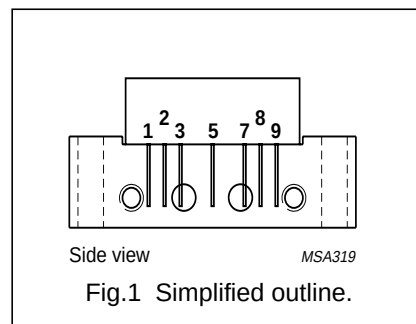
BGY586; BGY587

FEATURES

- Excellent linearity
- Extremely low noise
- Silicon nitride passivation
- Rugged construction
- TiPtAu metallized crystals ensure optimal reliability.

PINNING - SOT115J

PIN	DESCRIPTION
1	input
2	common
3	common
5	+V _B
7	common
8	common
9	output



DESCRIPTION

Hybrid amplifier modules for CATV systems operating over a frequency range of 40 to 550 MHz at a voltage supply of 24 V (DC). The BGY586 is intended for use as a pre-amplifier and BGY587 as a final amplifier.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
G _p	power gain	f = 50 MHz	21.5	—	22.5	dB
		f = 550 MHz	22	—	—	dB
I _{tot}	total current consumption (DC)	V _B = 24 V	—	180	200	mA
	BGY586		—	220	240	mA

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V _i	RF input voltage	—	65	dBmV
T _{stg}	storage temperature	−40	+100	°C
T _{mb}	operating mounting base temperature	−20	+100	°C

CATV amplifier modules

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CHARACTERISTICS

Bandwidth 40 to 550 MHz; $V_B = 24$ V; $T_{mb} = 30$ °C; $Z_S = Z_L = 75$ Ω .

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
G_p	power gain	$f = 50$ MHz	21.5	–	22.5	dB
		$f = 550$ MHz	22	–	–	dB
SL	slope cable equivalent	$f = 40$ to 550 MHz	0.2	–	1.5	dB
FL	flatness of frequency response	$f = 40$ to 550 MHz	–	–	± 0.2	dB
S_{11}	input return losses	$f = 40$ to 80 MHz	20	–	–	dB
		$f = 80$ to 160 MHz	19	–	–	dB
		$f = 160$ to 550 MHz	18	–	–	dB
S_{22}	output return losses	$f = 40$ to 80 MHz	20	–	–	dB
		$f = 80$ to 160 MHz	19	–	–	dB
		$f = 160$ to 550 MHz	18	–	–	dB
S_{21}	phase response	$f = 50$ MHz	+135	–	+225	deg
CTB	composite triple beat BGY586 BGY587	77 channels flat; $V_o = 44$ dBmV; measured at 547.25 MHz	–	–	–53	dB
			–	–	–57	dB
X_{mod}	cross modulation BGY586 BGY587	77 channels flat; $V_o = 44$ dBmV; measured at 55.25 MHz	–	–	–55	dB
			–	–	–58	dB
CSO	composite second order distortion BGY586 BGY587	77 channels flat; $V_o = 44$ dBmV; measured at 548.5 MHz	–	–	–50	dB
			–	–	–54	dB
d_2	second order distortion BGY586 BGY587	note 1	–	–	–62	dB
			–	–	–66	dB
V_o	output voltage BGY586 BGY587	$d_{im} = -60$ dB; note 2	58.5	–	–	dBmV
			61	–	–	dBmV
F	noise figure BGY586 BGY587	$f = 550$ MHz	–	–	6.5	dB
			–	–	7	dB
I_{tot}	total current consumption (DC) BGY586 BGY587	note 3	–	180	200	mA
			–	220	240	mA

Notes

- $f_p = 55.25$ MHz; $V_p = 44$ dBmV; $f_q = 493.25$ MHz; $V_q = 44$ dBmV; measured at $f_p + f_q = 548.5$ MHz.
- Measured according to DIN45004B: $f_p = 540.25$ MHz; $V_p = V_o$; $f_q = 547.25$ MHz; $V_q = V_o - 6$ dB; $f_r = 549.25$ MHz; $V_r = V_o - 6$ dB; measured at $f_p + f_q - f_r = 538.25$ MHz.
- The modules normally operate at $V_B = 24$ V, but are able to withstand supply transients up to 30 V.