

DATA SHEET



CGY887A

**860 MHz, 25.5 dB gain
push-pull amplifier**

Product specification
Supersedes data of 2001 Oct 25

2002 Apr 18

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CGY887A

FEATURES

- High gain
- Superior linearity
- Extremely low noise
- Rugged construction
- Gold metallization ensures excellent reliability.

APPLICATIONS

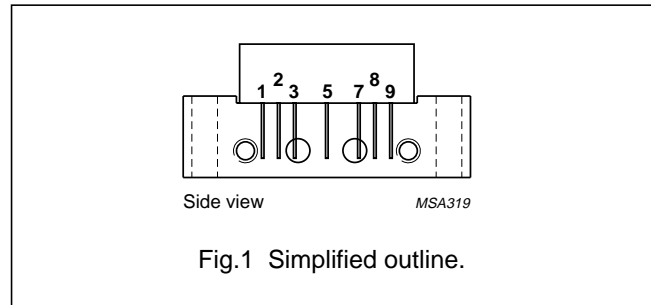
- CATV systems operating in the 40 to 870 MHz frequency range.

DESCRIPTION

Hybrid dynamic range amplifier module in a SOT115J package operating with a voltage supply of 24 V (DC), employing both GaAs and Si dies.

PINNING - SOT115J

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



QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G _p	power gain	f = 50 MHz	25.2	25.8	dB
		f = 870 MHz	25.7	27	dB
I _{tot}	total current consumption (DC)	V _B = 24 V	–	240	mA

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V _i	RF input voltage	–	75	dBmV
T _{stg}	storage temperature	–40	+100	°C
T _{mb}	operating mounting base temperature	–20	+100	°C

860 MHz, 25.5 dB gain push-pull amplifier

CGY887A

CHARACTERISTICSBandwidth 40 to 870 MHz; $V_B = 24\text{ V}$; $T_{\text{case}} = 30\text{ °C}$; $Z_S = Z_L = 75\ \Omega$.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G _p	power gain	f = 50 MHz	25.2	25.8	dB
		f = 870 MHz	25.7	27	dB
SL	straight line	f = 40 to 870 MHz	0.5	1.4	dB
FL	flatness of frequency response	f = 40 to 870 MHz	–	±0.5	dB
S ₁₁	input return losses	f = 40 to 80 MHz	20	–	dB
		f = 80 to 160 MHz	20	–	dB
		f = 160 to 320 MHz	20	–	dB
		f = 320 to 550 MHz	20	–	dB
		f = 550 to 640 MHz	19	–	dB
		f = 640 to 750 MHz	17	–	dB
		f = 750 to 870 MHz	17	–	dB
S ₂₂	output return losses	f = 40 to 80 MHz	21	–	dB
		f = 80 to 160 MHz	19	–	dB
		f = 160 to 320 MHz	17	–	dB
		f = 320 to 550 MHz	16	–	dB
		f = 550 to 640 MHz	16	–	dB
		f = 640 to 750 MHz	16	–	dB
		f = 750 to 870 MHz	16	–	dB
S ₂₁	phase response	f = 50 MHz	–45	+45	deg
CTB	composite triple beat	129 channels flat; V _o = 40 dBmV; measured at 745.25 MHz	–	–62	dB
X _{mod}	cross modulation	129 channels flat; V _o = 40 dBmV; measured at 55.25 MHz	–	–56	dB
CSO	composite second order distortion	129 channels flat; V _o = 40 dBmV; measured at 860.5 MHz	–	–59	dB
		129 channels flat; V _o = 40 dBmV; measured at 150 MHz	–	–69	dB
d ₂	second order distortion	note 1	–	–67	dB
V _o	output voltage	d _{im} = –60 dB; note 2	62	–	dBmV
NF	noise figure	f = 50 MHz	–	5.5	dB
		f = 100 to 870MHz	–	5	dB
I _{tot}	total current consumption (DC)	note 3	–	240	mA

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Notes

1. $f_p = 55.25$ MHz; $V_p = 50$ dBmV;
 $f_q = 805.25$ MHz; $V_q = 50$ dBmV;
measured at $f_p + f_q = 860.5$ MHz.
2. Measured according DIN45004B:
 $f_p = 851.25$ MHz; $V_p = V_o$;
 $f_q = 858.25$ MHz; $V_q = V_o - 6$ dB;
 $f_r = 860.25$ MHz; $V_r = V_o - 6$ dB;
measured at $f_p + f_q - f_r = 849.25$ MHz.
3. The module normally operates at $V_B = 24$ V, but is able to withstand supply transients up to 30 V.

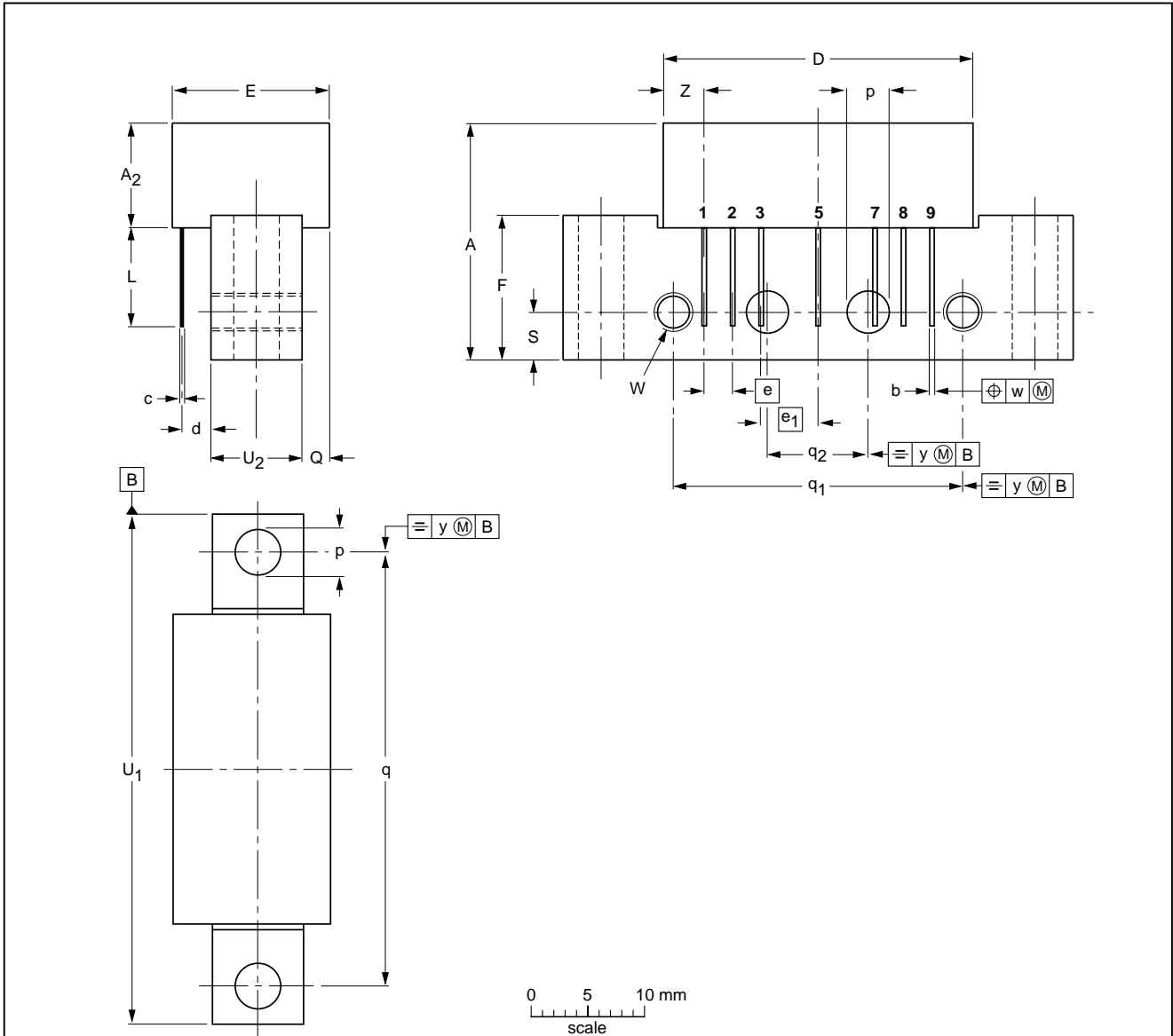
860 MHz, 25.5 dB gain push-pull amplifier

CGY887A

PACKAGE OUTLINE

Rectangular single-ended package; aluminium flange; 2 vertical mounting holes; 2 x 6-32 UNC and 2 extra horizontal mounting holes; 7 gold-plated in-line leads

SOT115J



DIMENSIONS (mm are the original dimensions)

UNIT	A max.	A ₂ max.	b	c	D max.	d max.	E max.	e	e ₁	F	L min.	p	Q max.	q	q ₁	q ₂	S	U ₁ max.	U ₂	W	w	y	Z max.
mm	20.8	9.1	0.51 0.38	0.25	27.2	2.54	13.75	2.54	5.08	12.7	8.8	4.15 3.85	2.4	38.1	25.4	10.2	4.2	44.75	8	6-32 UNC	0.25	0.1	3.8

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT115J						99-02-06

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