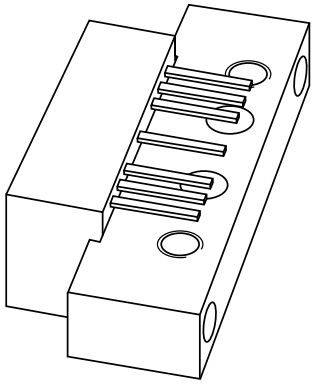
DATA SHEET



CGY887A

860 MHz, 25.5 dB gain push-pull amplifier

Product specification
Supersedes data of 2001 Oct 25

2002 Apr 18

860 MHz, 25.5 dB gain push-pull amplifier 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

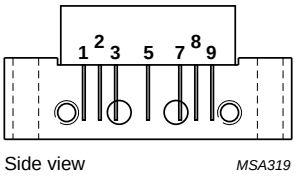


Fig.1 Simplified outline.

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

CHARACTERISTICS

Bandwidth 40 to 870 MHz; V_B = 24 V; T_{case} = 30 °C; $Z_S = Z_L$ = 75 Ω.

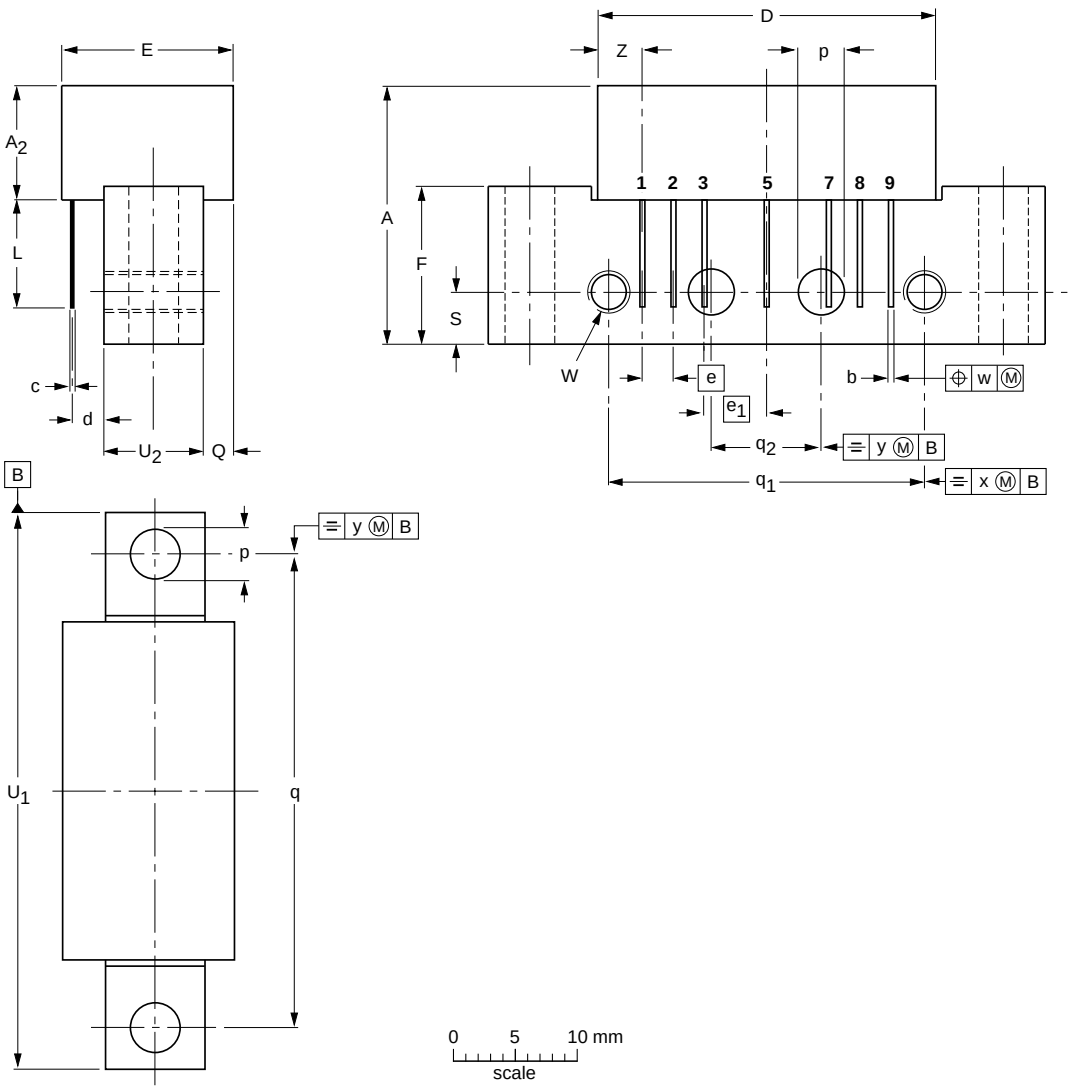
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	power gain	f = 50 MHz	25.2	25.8	dB
		f = 870 MHz	25.7	27	dB
SL	straight line	f = 40 to 870 MHz	0.5	1.4	dB
FL	flatness of frequency response	f = 40 to 870 MHz	–	±0.5	dB
s_{11}	input return losses	f = 40 to 80 MHz	20	–	dB
		f = 80 to 160 MHz	20	–	dB
		f = 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

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.

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	E max.	e	e_1	F	L min.	p	Q max.	q	q_1	q_2	S	U_1	U_2	W	w	x	y	Z max.
mm	20.8	9.5	0.51 0.38	0.25	27.2	2.04 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 44.25	8.2 7.8	6-32 UNC	0.25	0.7	0.1	3.8

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT115J						~~04-02-04~~ 10-06-18

DATA SHEET STATUS

DOCUMENT STATUS[1]	PRODUCT STATUS[2]	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

Notes

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