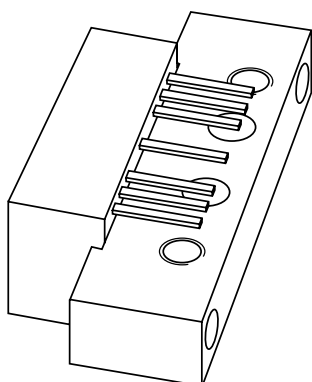


DATA SHEET



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

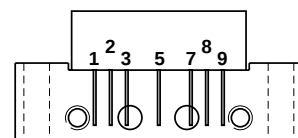
- CATV systems operating in the 40 to 870 MHz frequency range.

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



Side view

MSA319

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

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CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	power gain	$f = 50\text{ MHz}$	25.2	25.8	dB
		$f = 870\text{ MHz}$	25.7	27	dB
SL	straight line	$f = 40\text{ to }870\text{ MHz}$	0.5	1.4	dB
FL	flatness of frequency response	$f = 40\text{ to }870\text{ MHz}$	–	± 0.5	dB
S_{11}	input return losses	$f = 40\text{ to }80\text{ MHz}$	20	–	dB
		$f = 80\text{ to }160\text{ MHz}$	20	–	dB
		$f = 160\text{ to }320\text{ MHz}$	20	–	dB
		$f = 320\text{ to }550\text{ MHz}$	20	–	dB
		$f = 550\text{ to }640\text{ MHz}$	19	–	dB
		$f = 640\text{ to }750\text{ MHz}$	17	–	dB
		$f = 750\text{ to }870\text{ MHz}$	17	–	dB
S_{22}	output return losses	$f = 40\text{ to }80\text{ MHz}$	21	–	dB
		$f = 80\text{ to }160\text{ MHz}$	19	–	dB
		$f = 160\text{ to }320\text{ MHz}$	17	–	dB
		$f = 320\text{ to }550\text{ MHz}$	16	–	dB
		$f = 550\text{ to }640\text{ MHz}$	16	–	dB
		$f = 640\text{ to }750\text{ MHz}$	16	–	dB
		$f = 750\text{ to }870\text{ MHz}$	16	–	dB
S_{21}	phase response	$f = 50\text{ MHz}$	–45	+45	deg
CTB	composite triple beat	129 channels flat; $V_o = 40\text{ dBmV}$; measured at 745.25 MHz	–	–62	dB
X_{mod}	cross modulation	129 channels flat; $V_o = 40\text{ dBmV}$; measured at 55.25 MHz	–	–56	dB
CSO	composite second order distortion	129 channels flat; $V_o = 40\text{ dBmV}$; measured at 860.5 MHz	–	–59	dB
		129 channels flat; $V_o = 40\text{ dBmV}$; measured at 150 MHz	–	–69	dB
d_2	second order distortion	note 1	–	–67	dB
V_o	output voltage	$d_{\text{im}} = -60\text{ dB}$; note 2	62	–	dBmV
NF	noise figure	$f = 50\text{ MHz}$	–	5.5	dB
		$f = 100\text{ to }870\text{ MHz}$	–	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.

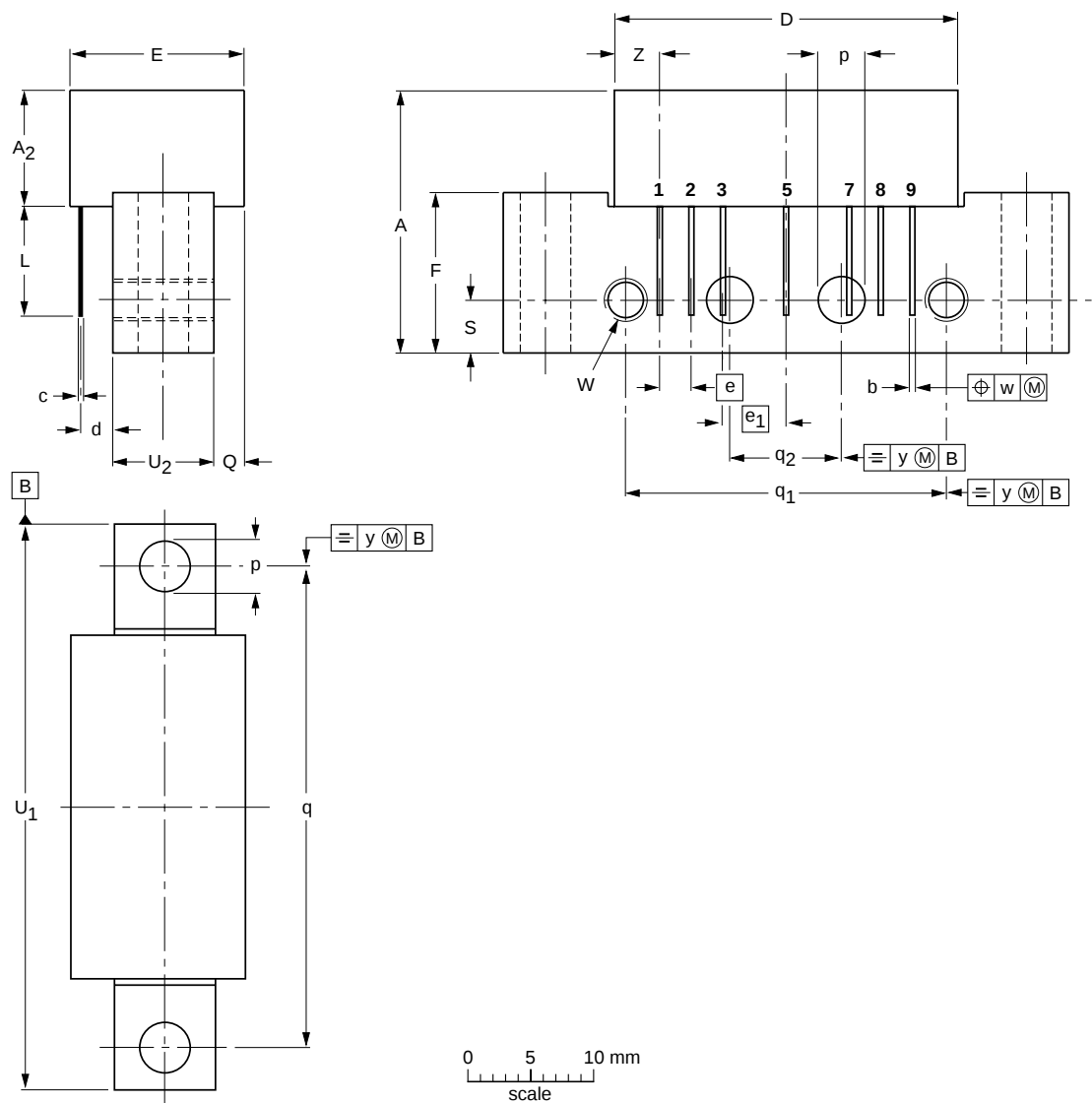
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PACKAGE OUTLINE

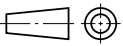
Rectangular single-ended package; aluminium flange; 2 vertical mounting holes;
2 x 6-32 UNC and 2 extra horizontal mounting holes; 7 gold-plated in-line leads

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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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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