

Features

- Excellent linearity
- Extremely low noise
- High gain
- Excellent return loss properties

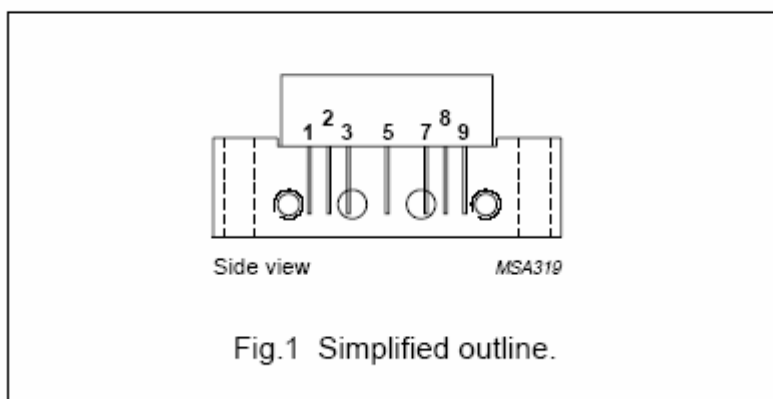
Application

Single module line extender in CATV systems operating in the 40 to 550 MHz frequency range.

DESCRIPTION

Hybrid high dynamic range amplifier module operating at a supply voltage of 24 V (DC) in a SOT115J package. The Module consists of two cascaded stages both in cascode configuration

PIN CONFIGURATION



Description	
1.	Input
2.	Common
3.	Common
4.	-
5.	+V _B
6.	-
7.	Common
8.	Common
9.	Output

Quick Reference Data

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
G _p	Power gain	F=50MHZ	18	--	20	dB
		F=550MHZ	19	--	--	dB
I _{tot}	Total current consumption(DC)	V _B =24V	--	--	240	mA

Limiting Values

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

Symbol	Parameter	Min.	Max.	Unit
V _i	RF input voltage	--	55	dBmV
T _{stg}	Storage temperature	-40	+100	°C
T _{mb}	Mounting base operating temperature	-20	+100	°C
V _B	DC supply voltage	--	+25	V

Characteristics

Bandwidth 40 to 550MHz; VB=24V; Tcase=35°C; ZS=ZL=75

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Gp	Power gain	f=50MHZ	18	--	20	dB
		f=550MHZ	19	--	--	dB
SL	Slope cable equivalent	f=40 to 550MHZ	0.5	--	2.0	dB
FL	Flatness of frequency response	f=40 to 550MHZ	-	-	±0.3	dB
S11	Input return losses	f=40 to 80MHz	20	-	-	dB
		f=80to160MHz	18.5	-	-	dB
		f=160to550MHz	17	-	-	dB
S22	Output return losses	f=40 to 80MHz	20			dB
		f=80 to160MHz	18.5			dB
		f=160 to 550MHz	16			dB
CTB	Composite triple beat	60 channels flat; Vo=44dBmV; measured at 543.25MHz	-	-	-65	dB
Xmod	Cross modulation	60 channels flat; Vo=44dBmV; measured at 49.725MHz	-	-	-59	dB
CSO	Composite second order distortion	60 channels flat; Vo=44dBmV; measured at 544.5MHz	-	-	-65	dB
D2	Second order distortion	Note 1	-	-	-64	dB
Vo	Output voltage	Dim=-60dB,note 2	60	-	-	dBm V
F	Noise figure	f=550MHz	-	-	6	dB
Itot	Total current consumption(DC)	Value; VB=24V; note 3	210	--	240	mA

Notes

1. fp=49.75MHz; Vp=44dBmV;

fq=495.25MHz; Vq=44dBmV;

measured at fp+fq=545MHz.

2. Measured according to DIN45004B;

fp=535.25MHz; Vp=Vo;

fq=543.25MHz; Vq=Vo-6dB;

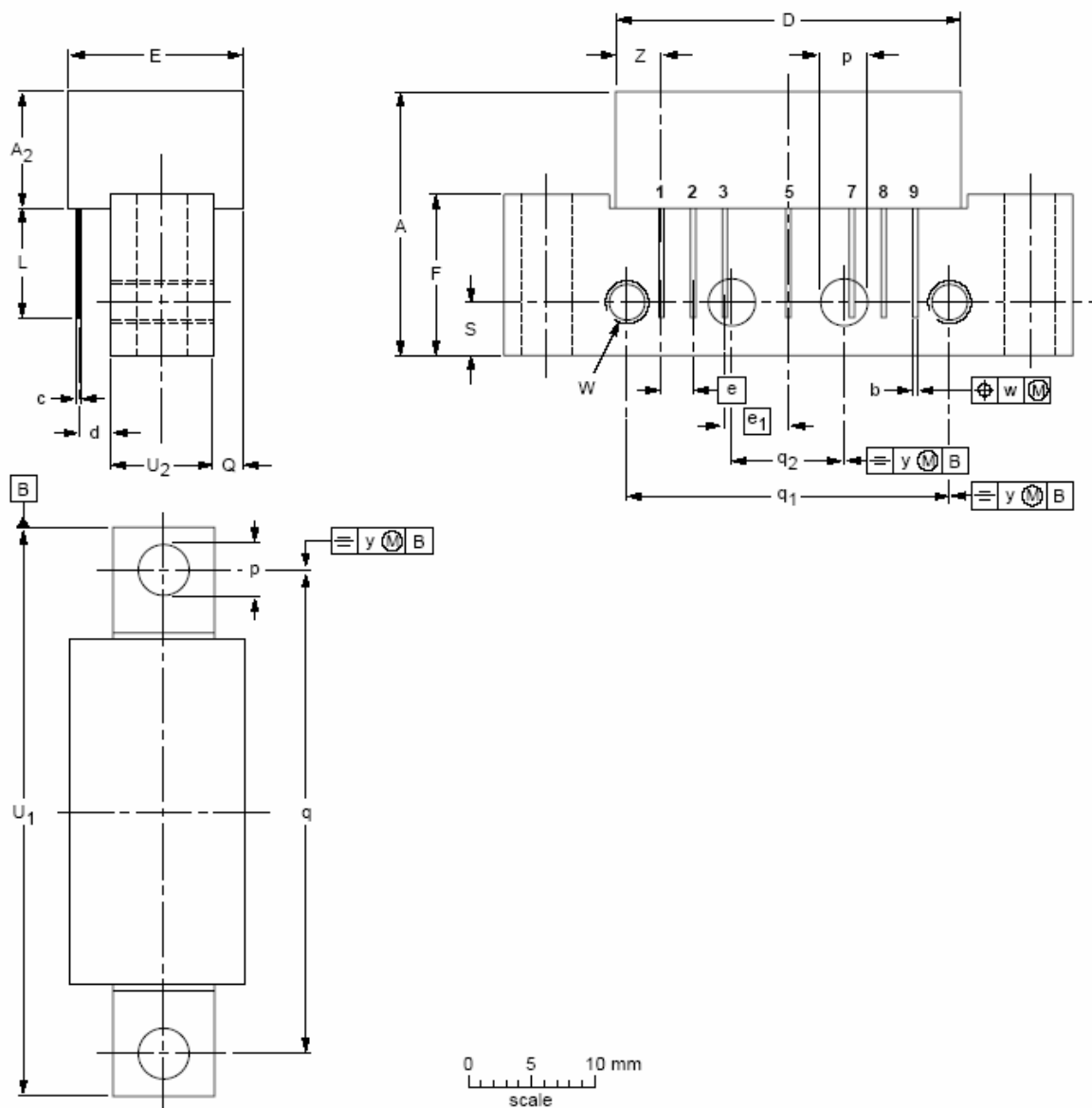
fr=545.25MHz; Vr=Vo-6dB;

measured at fp+fr-fq=537.25MHz.

3. The module normally operates at VB=24V, but is able to withstand supply transients up to 28 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 dimension)



UNIT	A max.	A2 max.	b	c	D max.	d max.	E max.	e	e1	F	L min.	φP	Q max.	q	q1	q2	s	U1 max.	U2	φ	w	y	Z max.
mm	21.0	9.1	0.55 0.45	0.25	27.2	3.5	13.75	2.54	5.08	12.7	8.2	4.2 3.8	2.4	38.1	25.4	10.2	4.2	45.2	8	6-32UNC OR: M4	0.25	0.1	4.0

DIMENSIONS (mm are the original dimensions)

UNIT	A max.	A2 max.	b	c	D max.	d max.	E max.	e	e1	F	L min.	p	Q max.	q	q1	q2	s	U1 max.	U2	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 3.65	2.4	38.1	25.4	10.2	4.2	44.75	8	6-32 UNC	0.25	0.1	3.8