

**Features**

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

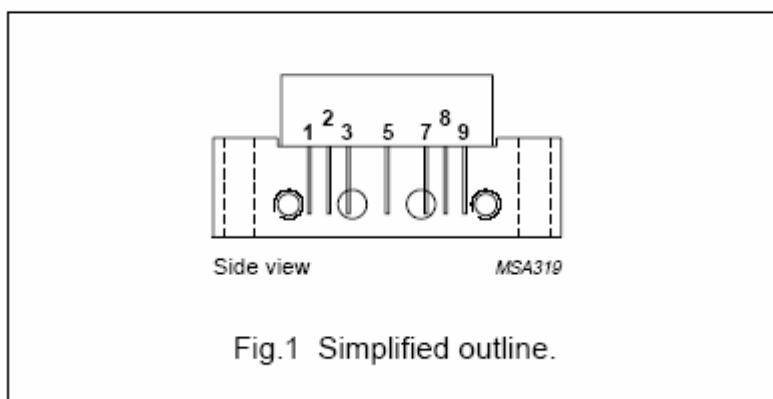
**Application**

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 <sub>B</sub>
6.	-
7.	Common
8.	Common
9.	Output

**Quick Reference Data**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
G <sub>p</sub>	Power gain	F=50MHZ	21.2	--	22.6	dB
		F=550MHZ	21.8	--	--	dB
I <sub>tot</sub>	Total current consumption(DC)	V <sub>B</sub> =24V	--	--	240	mA

**Limiting Values**

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

Symbol	Parameter	Min.	Max.	Unit
V <sub>i</sub>	RF input voltage	--	55	dBmV
T <sub>stg</sub>	Storage temperature	-40	+100	°C
T <sub>mb</sub>	Mounting base operating temperature	-20	+100	°C
V <sub>B</sub>	DC supply voltage	--	+25	V

**Characteristics**Bandwidth 40 to 550MHz; V<sub>B</sub>=24V; T<sub>case</sub>=35°C; Z<sub>S</sub>=Z<sub>L</sub>=75

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
G <sub>p</sub>	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
S <sub>11</sub>	Input return losses	f=40 to 80MHz	20	-	-	dB
		f=80to160MHz	18.5	-	-	dB
		f=160to550MHz	17	-	-	dB
S <sub>22</sub>	Output return losses	f=40 to 80MHz	20			dB
		f=80 to160MHz	17			dB
		f=160 to 550MHz	16			dB
CTB	Composite triple beat	60 channels flat; V <sub>o</sub> =44dBmV; measured at 543.25MHz	-	-	-65	dB
X <sub>mod</sub>	Cross modulation	77channels flat; V <sub>o</sub> =44dBmV; measured at 55.25MHz	-	-	-59	dB
CSO	Composite second order distortion	77 channels flat; V <sub>o</sub> =44dBmV; measured at 548.5MHz	-	-	-65	dB
D <sub>2</sub>	Second order distortion	Note 1	-	-	-64	dB
V <sub>o</sub>	Output voltage	Dim=-60dB,note 2	60	-	-	dBmV
F	Noise figure	f=550MHz	-	-	6	dB
I <sub>tot</sub>	Total current consumption(DC)	Value; V <sub>B</sub> =24V; note 3	210	--	240	mA

**Notes**1.f<sub>p</sub>=49.75MHz; V<sub>p</sub>=44dBmV;f<sub>q</sub>=495.25MHz; V<sub>q</sub>=44dBmV;measured at f<sub>p</sub>+f<sub>q</sub>=545MHz.

2.Measured according to DIN45004B;

**HONGKONG WISHING INTERNATIONAL LIMITED**

TEL:+86 755 25092353

FAX:+86 755 27529496

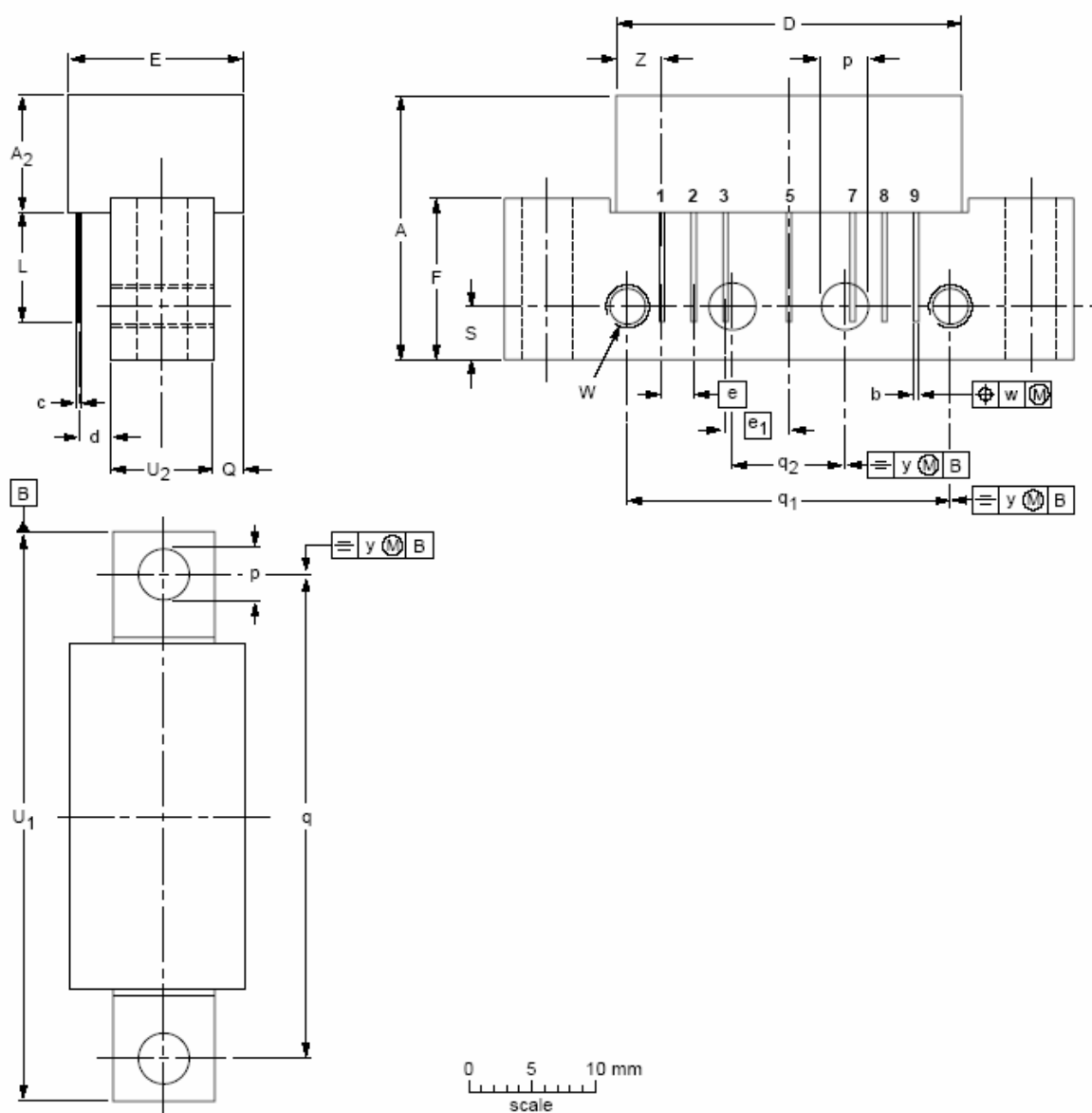
EMAIL: [SALES@WISHHK.COM](mailto:SALES@WISHHK.COM)

$f_p=535.25\text{MHz}$ ;  $V_p=V_o$ ;  
 $f_q=543.25\text{MHz}$ ;  $V_q=V_o-6\text{dB}$ ;  
 $f_r=545.25\text{MHz}$ ;  $V_r=V_o-6\text{dB}$ ;  
 measured at  $f_p+f_r-f_q=537.25\text{MHz}$ .

3.The module normally operates at  $V_B=24\text{V}$ ,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 dimensions)

UNIT	A max.	A <sub>2</sub> max.	b	c	D max.	d max.	E max.	e	e <sub>1</sub>	F	L min.	p	Q max.	q	q <sub>1</sub>	q <sub>2</sub>	S	U <sub>1</sub> max.	U <sub>2</sub>	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