



FEATURES

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

APPLICATIONS

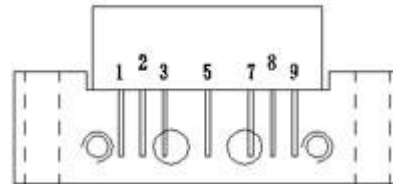
- Single module line extender in CATV systems operating in the 40 to 750 MHz frequency range.

DESCRIPTION

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

PINNING - SOT115U

PIN	DESCRIPTION
1	Input
2	Common
3	Common
5	+VB
7	Common
8	Common
9	Output



Side view

Fig.1 Simplified outline

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G _p	power gain	f=50MHz	33.5	35	dB
		f=750MHz	35	-	dB
I _{tot}	total current consumption (DC)	V _B =24V	210	245	mA

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (1EC 134).

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_B	Supply voltage	-	25	V
V_i	RF input voltage	-	45	dBmV
T_{stg}	Storage temperature	-40	+100	
T_{mb}	Mounting base operating temperature	-20	+100	

 **CHARACTERISTICS**

Bandwidth 40 to 750 MHz; $V_B=24V$; $T_{case}=30^{\circ}C$; $Z_s=Z_L=75\Omega$

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	Power gain	f=50MHz	33.5	35	dB
		f=750MHz	35	-	dB
SL	Slope cable equivalent	f=50 to 750 MHz	0.5	2.5	dB
FL	Flatness of frequency response	f=50 to 750 MHz	-	± 0.4	dB
S_{11}	Input return losses	f=50 to 100 MHz	18	-	dB
		f=100 to 160 MHz	18	-	dB
		f=160 to 300 MHz	18	-	dB
		f=300 to 650 MHz	18	-	dB
		f=650 to 750 MHz	16	-	dB
S_{22}	Output return losses	f=50 to 100 MHz	16	-	dB
		f=100 to 160 MHz	16	-	dB
		f=160 to 300 MHz	16	-	dB
		f=300 to 650 MHz	16	-	dB
		f=650 to 750 MHz	14	-	dB
CTB	Composite triple beat	60 channels flat; $V_o=40dBmV$; measured at 543.25 MHz	-	-62	dB
X_{mod}	Cross modulation	60 channels flat; $V_o=40dBmV$; measured at 49.75 MHz	-	-64	dB
CSO	Composite second order distortion	60 channels flat; $V_o=40dBmV$; measured at 544.5 MHz	-	-64	dB
d_2	Second order distortion	Note1	-	-64	dB
V_o	Output voltage	Dim= -60 dB; note 2	58	-	dBmV

F	Noise figure	f =750MHZ	-	6.5	dB
I _{tot}	Total current consumption (DC)	Note 3	210	245	Ma

Note:

1. fp=49.75MHz; Vp=44dBmV;
fq=695.25MHz; Vq=44dBmV;
measured at fp+fq=745MHz.
2. Measured according to DIN45004B;
fp=735.25MHz; Vp=Vo;
fq=743.25MHz; Vq=Vo-6Db;
fr=745.25MHz; Vr=Vo-6Db;
measured at fp+fr-fq=737.25MHz.
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; aluminum flange; 2 vertical mounting holes; 2×6-32 UNC AND 2 extra horizontal mounting holes; 7 gold-plated in-line leads

