



FEATURES

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

APPLICATIONS

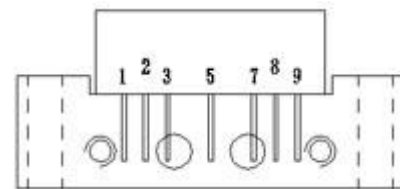
- Single module line extender in CATV systems operating in the 40 to 860 MHz frequency range.

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	29.5	31	dB
		f=860MHz	31	-	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	-20	+100	
T_{mb}	Mounting base operating temperature	-20	+100	

 **CHARACTERISTICS**

Bandwidth 40 to 860 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	29.5	31	dB
		f=860MHz	31	-	dB
SL	Slope cable equivalent	f=40 to 860 MHz	0.5	2.5	dB
FL	Flatness of frequency response	f=40 to 860 MHz	-	± 0.5	dB
S_{11}	Input return losses	f=40 to 80 MHz	18	-	dB
		f=80 to 160 MHz	18	-	dB
		f=160 to 320 MHz	18	-	dB
		f=320 to 750 MHz	18	-	dB
		f=750 to 860 MHz	16	-	dB
S_{22}	Output return losses	f=40 to 80 MHz	14	-	dB
		f=80 to 160 MHz	14	-	dB
		f=160 to 320 MHz	14	-	dB
		f=320 to 750 MHz	14	-	dB
		f=750 to 860 MHz	12	-	dB
CTB	Composite triple beat	60 channels flat; $V_o=40dBmV$; measured at 534.25 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 544.25 MHz	-	-62	dB
d_2	Second order distortion	Note 1	-	-64	dB
V_o	Output voltage	Dim= -60 dB; note 2	57.5	-	dBmV
F	Noise figure	f =860MHZ	-	6.5	dB

PM	Positive match	f=40 MHz to 2 GHz	-	3	dB
I_{tot}	total current consumption (DC)	Note 3	210	245	mA

Note:

1. $f_p=49.75\text{MHz}$; $V_p=44\text{dBmV}$;
 $f_q=8.7.25\text{MHz}$; $V_q=44\text{dBmV}$;
 measured at $f_p+f_q=857.00\text{MHz}$.
2. Measured according to DIN45004B;
 $f_p=847.25\text{MHz}$; $V_p=V_o$;
 $f_q=855.25\text{MHz}$; $V_q=V_o-6\text{dB}$;
 $f_r=857.25\text{MHz}$; $V_r=V_o-6\text{dB}$;
 measured at $f_p+f_r-f_q=849.25\text{MHz}$.
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; aluminum flange; 2 vertical mounting holes; 2×6-32 UNC AND 2 extra horizontal mounting holes; 7 gold-plated in-line leads

