



**FEATURES**

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

**APPLICATIONS**

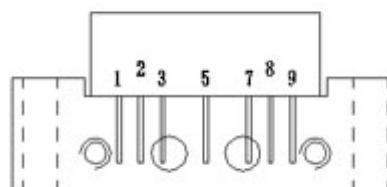
- Single module line extender in CATV systems operating in the 5 to 200 MHz frequency range.

**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.

**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	$f=10\text{MHz}$	29.5	31	dB
$I_{tot}$	total current consumption (DC)	$V_B=24\text{V}$	145	195	mA

**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 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 5 to 200 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=10MHz	29.5	31	dB
		f=200MHz	31	-	dB
SL	slope cable equivalent	f=10 to 200 MHz	-0.2	1.0	dB
FL	flatness of frequency response	f=10 to 200 MHz	-	$\pm 0.35$	dB
$S_{11}$	input return losses	f=5 to 200 MHz	18	-	dB
$S_{22}$	output return losses	f=5 to 200 MHz	16	-	dB
CTB	composite triple beat	17 channels flat; $V_o=50dBmV$ ; measured at 200.25 MHz	-	-62	dB
$X_{mod}$	cross modulation	17 channels flat; $V_o=50dBmV$ ; measured at 49.75 MHz	-	-65	dB
CSO	composite second order distortion	17 channels flat; $V_o=50dBmV$ ; measured at 201.25 MHz	-	-63	dB
$V_o$	output voltage	Dim= -60 dB; note 1	60	-	dBmV
F	noise figure	f =200MHZ	-	6.5	dB
$I_{tot}$	total current consumption (DC)	Note 2	145	195	mA

**Note :**

1. Measured according to DIN45004B;

$f_p=184.25MHz$ ;  $V_p=V_o$ ;

$f_q=192.25MHz$ ;  $V_q=V_o-6dB$ ;

$f_r=194.25MHz$ ;  $V_r=V_o-6dB$ ;

measured at  $f_p+f_r-f_q=186.25MHz$ .

2. The module normally operates at  $V_B=24V$ , 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

