

Features

Excellent linearity
Extremely low noise
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 24V(DC) in a SOT115J package. The Module consists of two cascaded stages both in cascade Configuration

PIN CONFIGURATION

PIN	DESCRIPTION
1	input
2	common
3	common
5	+VB
7	common
8	common
9	output

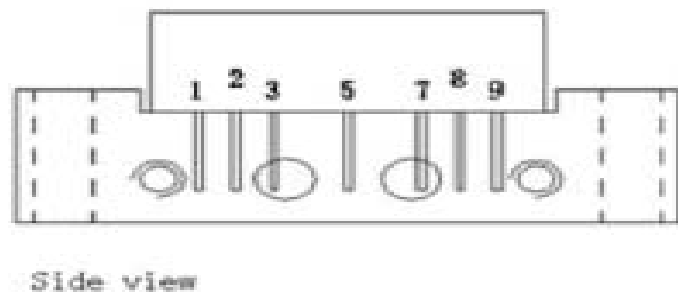


Fig.1 Simplified outline

Quick Reference Data

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	power gain	$f=10\text{MHz}$	23.0	24.5	dB
I_{tot}	total current consumption (DC)	$V_B=24\text{V}$	0	240	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	-	55	dBmV
T_{stg}	storage temperature	-20	+100	°C
T_{mb}	mounting base operating temperature	-20	+100	°C

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	23.0	24.5	dB
SL	slope cable equivalent	f=5 to 200 MHz	-0.2	1.0	dB
FL	flatness of frequency response	f=5 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	16 channels flat; $V_o=50dBmV$;measured at 192.25 MHz	-	-65	dB
X_{mod}	cross modulation	16 channels flat; $V_o=50dBmV$;measured at 49.75 MHz	-	-60	dB
CSO	composite second order distortion	16 channels flat; $V_o=50dBmV$;measured at 193.25 MHz	-	-65	dB
V_o	output voltage	Dim= -60 dB; note 1	60	-	dBmV
F	noise figure	f =200MHZ	-	5.5	dB
I_{tot}	total current consumption (DC)	Note 2	0	240	mA

Note:

- 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 $f_p+f_r-f_q=186.25MHz$.
- 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 \times 6-32 UNC AND 2 extra horizontal mounting holes; 7 gold-plated in-line leads

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