



FEATURES

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

APPLICATIONS

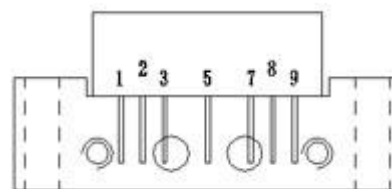
- Single module line extender in CATV systems operating In the 40 to 860 MHz frequency range.

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	$f=50\text{MHz}$	11.5	12.9	dB
		$f=860\text{MHz}$	13.0	-	dB
I_{tot}	Total current consumption (DC)	$V_B=24\text{V}$	200	235	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_B	RF input voltage	-	45	dBmV
T_{stg}	Storage temperature	-20	+100	°C
T_{mb}	Mounting base operating temperature	-20	+100	°C



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	11.5	12.9	dB
		f=860MHz	13.0	-	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	84 channels flat; $V_o=44\text{dBmV}$; measured at 734.25 MHz	-	-50	dB
X_{mod}	Cross modulation	84 channels flat; $V_o=44\text{dBmV}$; measured at 49.75 MHz	-	-59	dB
CSO	Composite second order distortion	84 channels flat; $V_o=44\text{dBmV}$; measured at 744.25 MHz	-	-52	dB
d_2	Second order distortion	Note1	-	-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	200	235	mA

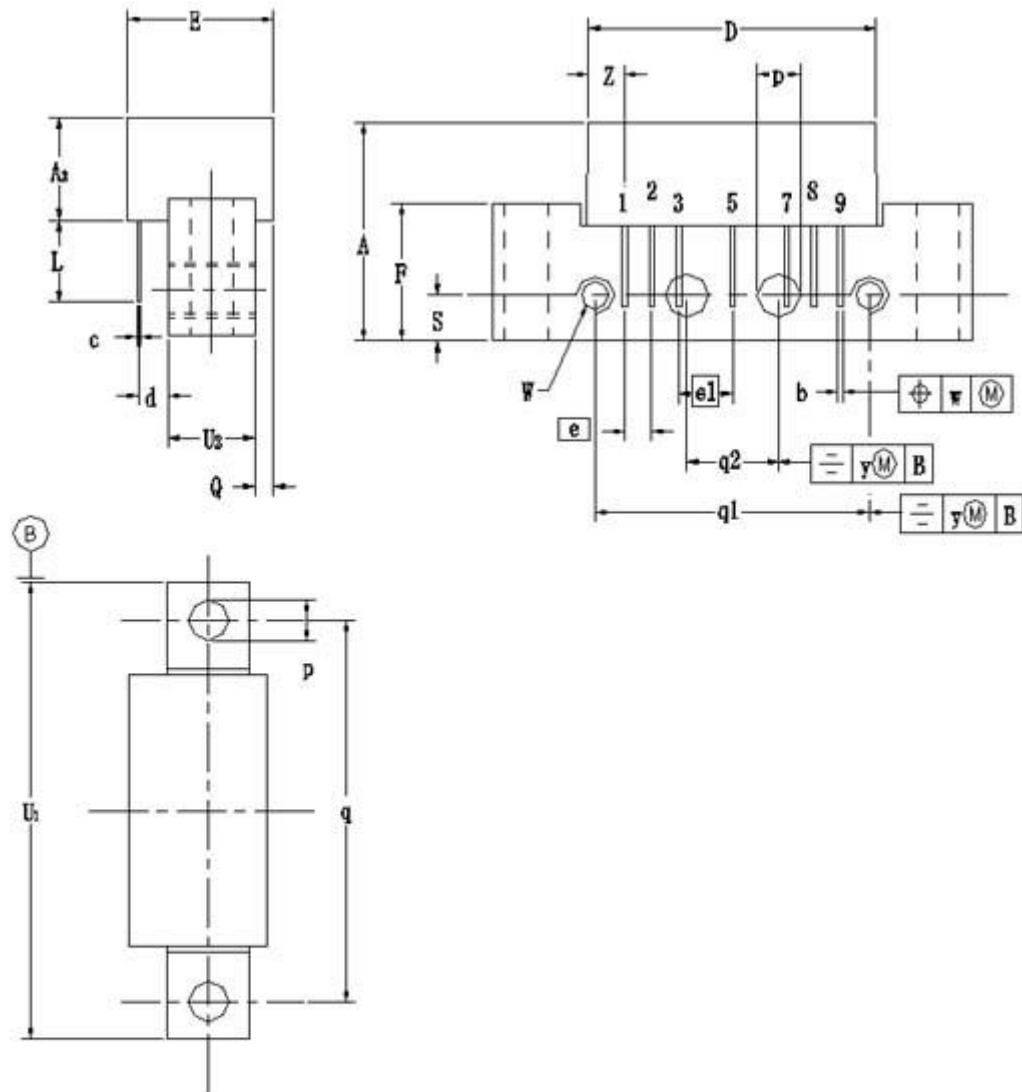
Note :

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



DIMENSIONS (mm are the original dimension)



UNIT	A MAX.	A2 MAX.	b	c	D MAX.	d MAX.	E MAX.	e	el	F	L MIN.	φP	Q MAX.	q	q1	q2	S	U1 MAX.	U2	W	w	y	Z MAX.
mm	21.0	9.1	0.55 0.45	0.25	27.2	3.5	13.75	2.54	5.08	12.7	8.2	4.2 3.8	2.4	38.1	25.4	10.2	4.2	45.2	8	6-32UNC OR: M4	0.25	0.1	4.0