



FEATURES

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

PINNING - SOT115U

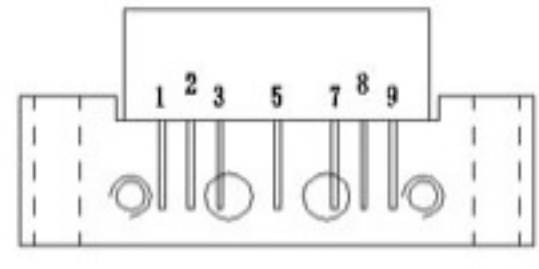
PIN	DESCRIPTION
1	input
2	common
3	common
5	+VB
7	common
8	common
9	output

APPLICATIONS

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

DESCRIPTION

Hybrid high dynamic range amplifier module operating at a supply voltage of 24 V (DC) in a SOT115U package. The Module consists of two cascaded stages both in cascode configuration.



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	190	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	-	45	dBmV
T _{stg}	storage temperature	-40	+100	°C
T _{mb}	mounting base operating temperature	-20	+100	°C

CHARACTERISTICS

Bandwidth 40 to 750 MHz; V_B=24V; T_{case}=30°C ; Z_s=Z_L=75Ω

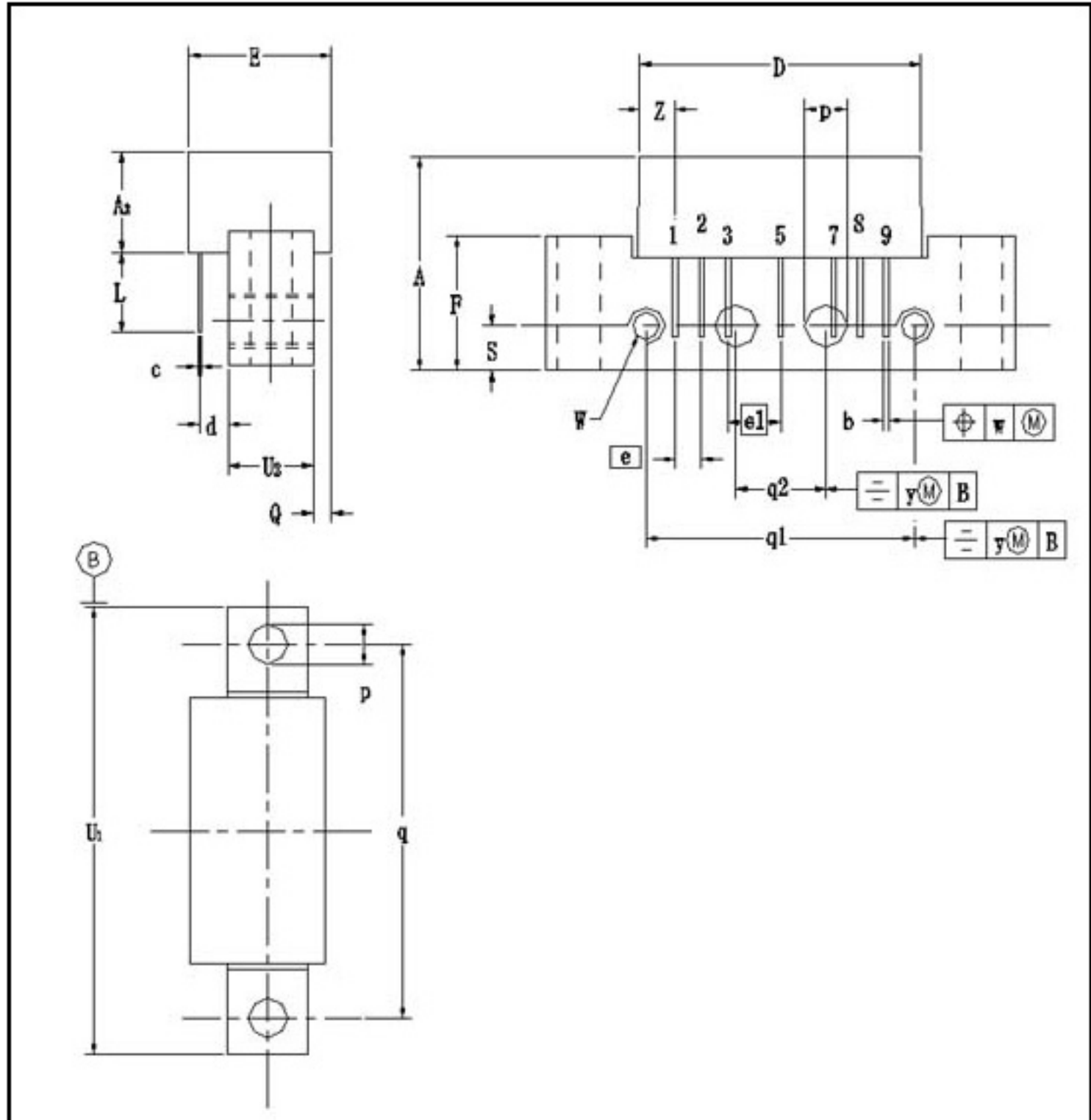
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G _p	power gain	f=50MHz	33.5	35	dB
		f=750MHz	35	-	dB
SL	slope cable equivalent	f=50 to 750 MHz	0.5	2.5	dB
FL	flatness of frequency response	f=50 to 750 MHz	-	±0.4	dB
S ₁₁	input return losses	f=50 to 100 MHz	18	-	dB
		f=100 to 160 MHz	18	-	dB
		f=160 to 300 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	84 channels flat; V _o =44dBmV; measured at 743.25 MHz	-	-61	dB
X _{mod}	cross modulation	84 channels flat; V _o =44dBmV; measured at 49.75 MHz	-	-61	dB
CSO	composite second order distortion	84 channels flat; V _o =44dBmV; measured at 744.5 MHz	-	-66	dB
d ₂	second order distortion	Note 1	-	-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	190	240	mA

Notes:

- 1.f_p=49.75MHz; V_p=44dBmV; f_q=695.25MHz; V_q=44dBmV; measured at f_p+f_q=745MHz.
- 2.Measured according to DIN45004B; f_p=735.25MHz; V_p=V_o; f_q=743.25MHz; V_q=V_o-6dB; f_r=745.25MHz; V_r=V_o-6dB; measured at f_p+f_r-f_q=737.25MHz.
- 3.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



DIMENSIONS (mm are the original dimension)

UNIT	A	A2	b	c	D	d	E	e	e1	F	L	φP	Q	q	q1	q2	S	U1	U2	w	w	y	Z
mm	MAX.	MAX.	0.55 0.45	0.25	27.2	3.5	13.75	2.54	6.08	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