FEATURES

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

PINNING - SOT115U

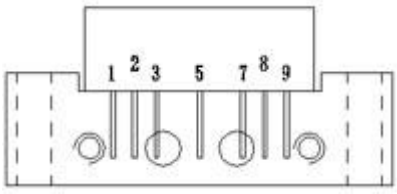
PIN	DESCRIPTION
1	Input
2	Common
3	Common
5	+VB
7	Common
8	Common
9	Output

APPLICATIONS

- Single module line extender in CATV systems operating In the 40 to 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.



Side view

Fig.1 Simplified outline

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	Power gain	f=50MHz	24.5	25.9	dB
		f=860MHz	25.0	-	dB
I_{tot}	Total current consumption (DC)	V_B=24V	200	235	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°C ; Z_s=Z_L=75Ω

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	Power gain	f=50MHz	21.5	23	dB
		f=860MHz	23	-	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;Vo=44dBmV;measured at 743.25 MHz	-	-58	dB
X_{mod}	Cross modulation	84 channels flat;Vo=44dBmV;measured at 49.75 MHz	-	-61	dB
CSO	Composite second order distortion	84 channels flat;Vo=44dBmV;measured at 744.25 MHz	-	-61	dB
d_2	Second order distortion	Note1	-	-64	dB
Vo	Output voltage	Dim= -60 dB; note 2	57.5	-	dBmV
F	Noise figure	f =860MHZ	-	6.5	dB

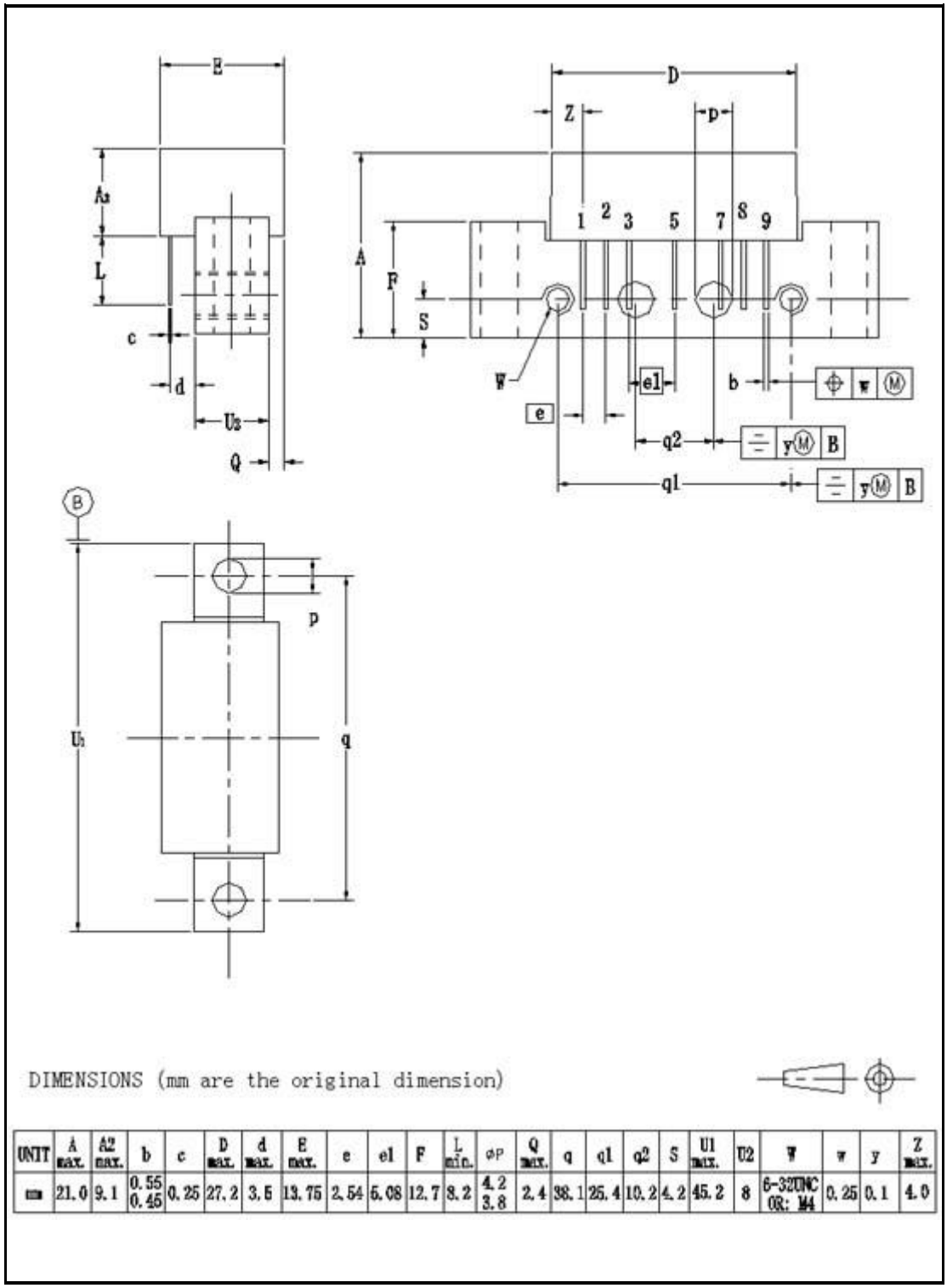
PM	Positive match	f=40 MHz to 2 GHz	-	3	dB
I_{tot}	Total current consumption (DC)	Note 3	200	235	mA

Note：

1. fp=49.75MHz; Vp=44dBmV;
   fq=8.7.25MHz; Vq=44dBmV;
   measured at fp+fq=857.00MHz.
2. Measured according to DIN45004B;
   fp=847.25MHz; Vp=Vo;
   fq=855.25MHz; Vq=Vo-6dB;
   fr=857.25MHz; Vr=Vo-6dB;
   measured at fp+fr-fq=849.25MHz.
3. The module normally operates at VB=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 max.	A2 max.	b	c	D max.	d max.	E max.	e	e1	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