

### 200MHz 24dB Gain With Reverse Amplifier Module

## 1. Product profile

### 1.1 General description

Hybrid high dynamic range amplifier module designed for applications in CATV systems. with a bandwidth of 5 MHz to 200 MHz operating at a voltage supply of 24 V (DC) in a SOT115J package.

#### CAUTION



This device is sensitive to Electro Static Discharge (ESD). Therefore care should be taken during transport and handling.

### 1.2 Features and benefits

- Excellent linearity
- Low noise
- Low return loss
- Rugged construction

### 1.3 Applications

- Reverse amplifier in two-way CATV systems.

### 1.4 Quick reference data

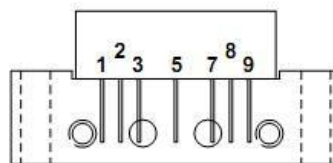
Bandwidth 5 MHz to 200 MHz;  $V_B = 24\text{ V}$ ;  $T_{mb} = 30\text{ }^\circ\text{C}$ ;  $Z_S = Z_L = 75\text{ }\Omega$ .

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$G_p$	power gain	$f = 10\text{ MHz}$	23.5	24.0	25.0	dB
$I_{tot}$	total current	$V_B = 24\text{ V}$	140	155	165	mA

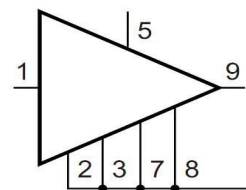
## 2. Pin information

Pin	Description
1	input
2	common
3	common
5	+ $V_B$
7	common
8	common
9	output

Simplified Outline



Graphic Symbol



## 3. Operating conditions

### 3.1 Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134) (TA = +25°C)

Parameter	Symbol	Min	Max	Unit
Supply Voltage	V <sub>B</sub>	-	25	V
Input Voltage [1]	V <sub>i</sub>	-	65	dBmV
Operating Case Temperature	T <sub>c</sub>	-20	+100	°C
Storage Temperature	T <sub>stg</sub>	-40	+100	°C

[1] In case of single tone

### 3.2 Recommended operating conditions (Z<sub>S</sub> = Z<sub>L</sub> = 75 Ω)

Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
Supply Voltage	V <sub>B</sub>		23.5	24.0	24.5	V
Operating Case Temperature	T <sub>c</sub>		-20	+25	+80	°C

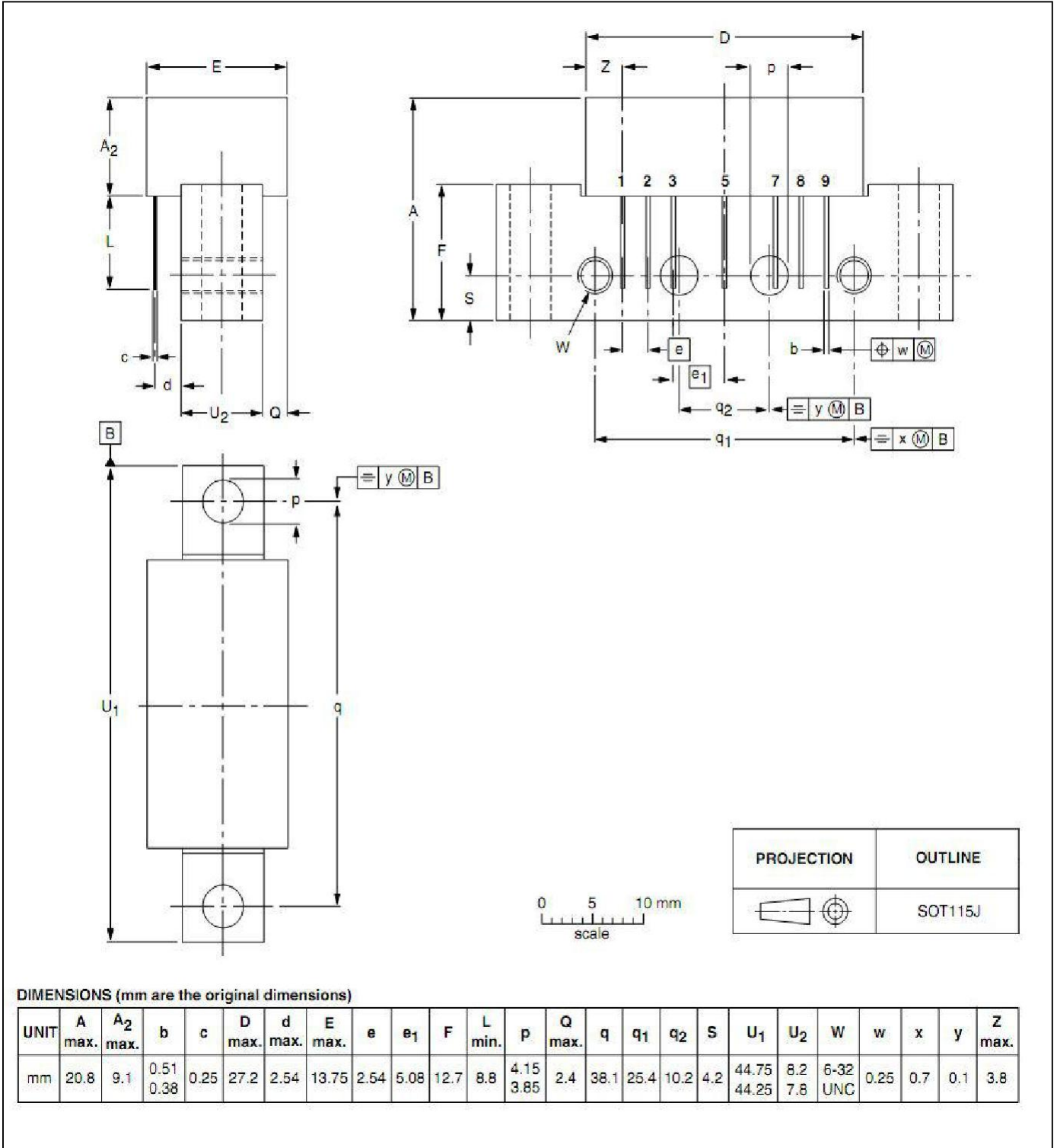
## 4. Electrical characteristics

(T<sub>c</sub> = 30±5°C, V<sub>B</sub> = 24 V, Z<sub>S</sub> = Z<sub>L</sub> = 75 Ω)

Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
Power Gain	G <sub>p</sub>	f = 10 MHz	23.5	24.0	25.0	dB
Gain Slope	S <sub>L</sub>	f = 5 to 200 MHz	0.	0.5	1.0	dB
Gain Flatness	FL	f = 5 to 200 MHz	-	-	±0.2	dB
Noise Figure	NF	f = 200 MHz	-	6.0	6.5	dB
Operating Current	I <sub>B</sub>	V <sub>B</sub> =24VDC, RF OFF	140	155	165	mA
Composite Triple Beat	CTB	17 channels, flat output level across the band V <sub>O</sub> = 50dBmV at 200.25 MHz,	-	-65	-	dB
Cross Modulation	XM		-	-64	-	dB
Composite 2nd Order Beat	CSO		-	-68	-	dB
Input Return Loss	S <sub>11</sub>	f = 5 to 200 MHz	16	-	-	dB
Output Return Loss	S <sub>22</sub>	f = 5 to 200 MHz	16	-	-	dB

**5. Package outline**

**Rectangular single-ended package; aluminum flange; 2 vertical mounting holes; 2 x 6-32 UNC and 2 extra horizontal mounting holes; 7 gold-plated in-line leads.**



**UNIT: mm**

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