

200 MHz CATV 34dB 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

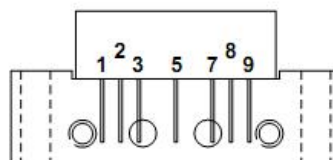
Bandwidth 5 MHz to 200 MHz; $V_B = 24\text{ V}$; $T_{mb} = 30\text{ }^\circ\text{C}$; $Z_S = Z_L = 75\ \Omega$

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|-----------|---------------|---------------------|------|------|------|------|
| G_p | power gain | $f = 10\text{ MHz}$ | 33.5 | 34.0 | 35.0 | dB |
| I_{tot} | total current | $V_B = 24\text{ V}$ | 140 | 155 | 165 | mA |

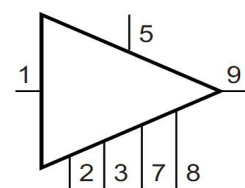
2. Pin information

| 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 _B | - | 25 | V |
| Input Voltage [1] | V _i | - | 65 | dBmV |
| Operating Case Temperature | T _c | -20 | +90 | °C |
| Storage Temperature | T _{stg} | -40 | +100 | °C |

[1] In case of single tone

3.2 Recommended operating conditions (Z_S = Z_L = 75 Ω)

| Parameter | Symbol | Test Conditions | MIN. | TYP. | MAX. | Unit |
|----------------------------|----------------|-----------------|------|------|------|------|
| Supply Voltage | V _B | | 23.5 | 24.0 | 24.5 | V |
| Operating Case Temperature | T _c | | -20 | +25 | +80 | °C |

4. Electrical characteristics

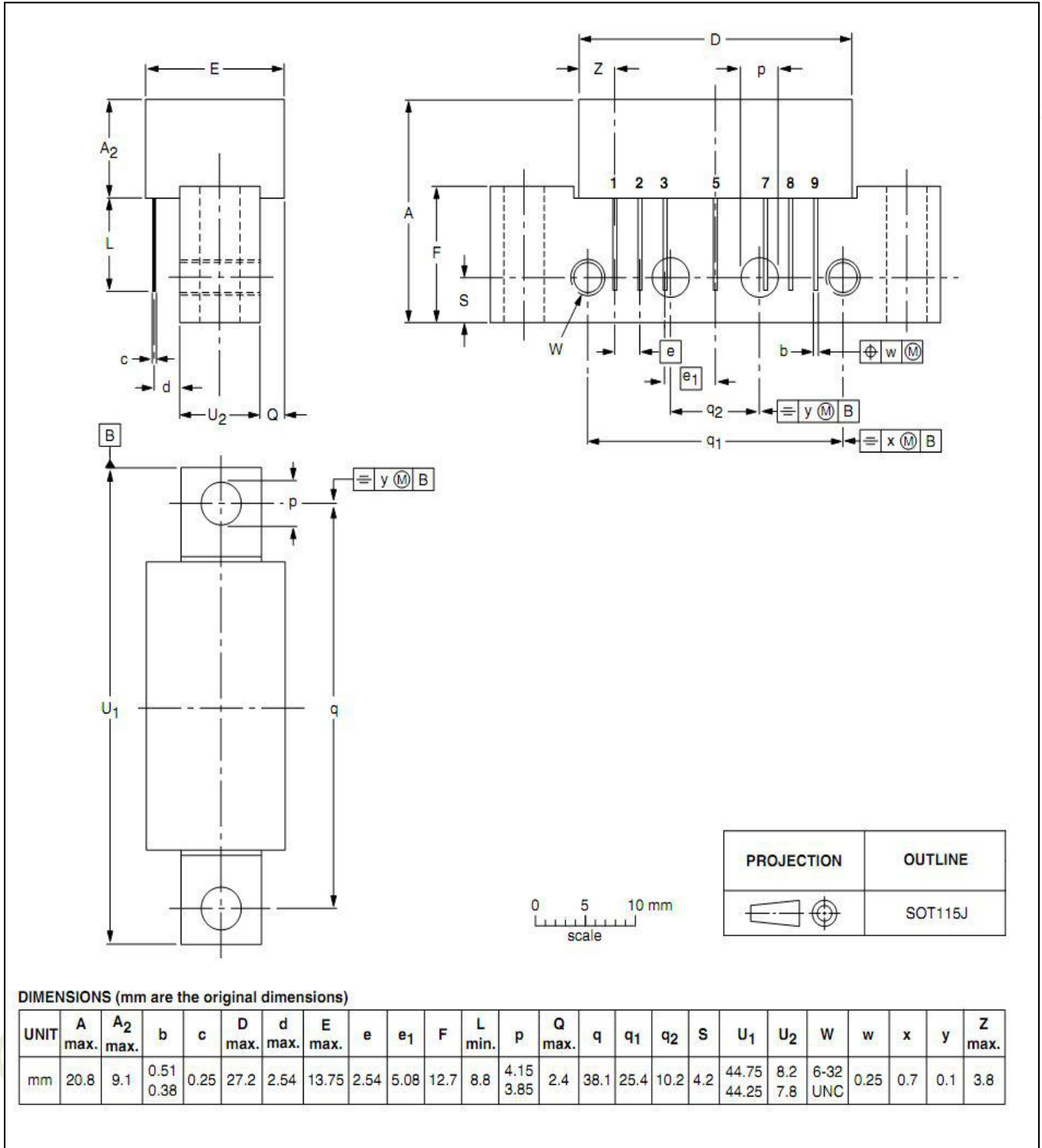
(T_c = 30±5°C, V_B = 24 V, Z_S = Z_L = 75 Ω) 0

| Parameter | Symbol | Test Conditions | MIN. | TYP. | MAX. | Unit |
|--------------------------|----------------|---|------|------|------|------|
| Power Gain | G _p | f = 10 MHz | 33.5 | 34.0 | 35.0 | dB |
| Gain Slope | SL | f = 5 to 200 MHz | 0 | 0.5 | 1.0 | dB |
| Gain Flatness | FL | f = 5 to 200 MHz | - | - | ±0.3 | dB |
| Noise Figure | NF | f = 200 MHz | - | 6.0 | 6.5 | dB |
| Operating Current | I _B | V _B =24VDC, RF OFF | 140 | 155 | 165 | mA |
| Composite Triple Beat | CTB | | - | -65 | - | dB |
| Cross Modulation | XM | 17 channels, flat output level across the band VO = 50dBmV at 200.25 MHz, | - | -64 | - | dB |
| Composite 2nd Order Beat | CSO | | - | -68 | - | dB |
| Input Return Loss | S11 | f = 5 to 200 MHz | 16 | - | - | dB |
| Output Return Loss | S22 | 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.

SOT115J



UNIT: mm

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