

75MHz CATV 30dB 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 75 MHz operating at a voltage supply of 24 V (DC) in a SOT115 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

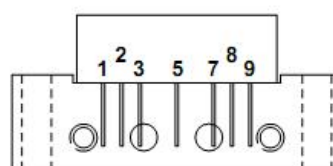
Bandwidth 5 MHz to 75 MHz; $V_B = 24\text{ V}$; $T_{mb} = 30\text{ }^\circ\text{C}$; $Z_S = Z_L = 75\ \Omega$.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
G_p	power gain	$f = 10\text{ MHz}$	29.5	30.0	31.0	dB
I_{tot}	total current	$V_B = 24\text{ V}$	130	145	160	mA

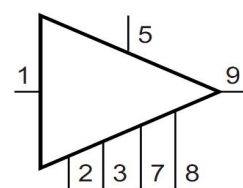
2. Pin information

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	+100	°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

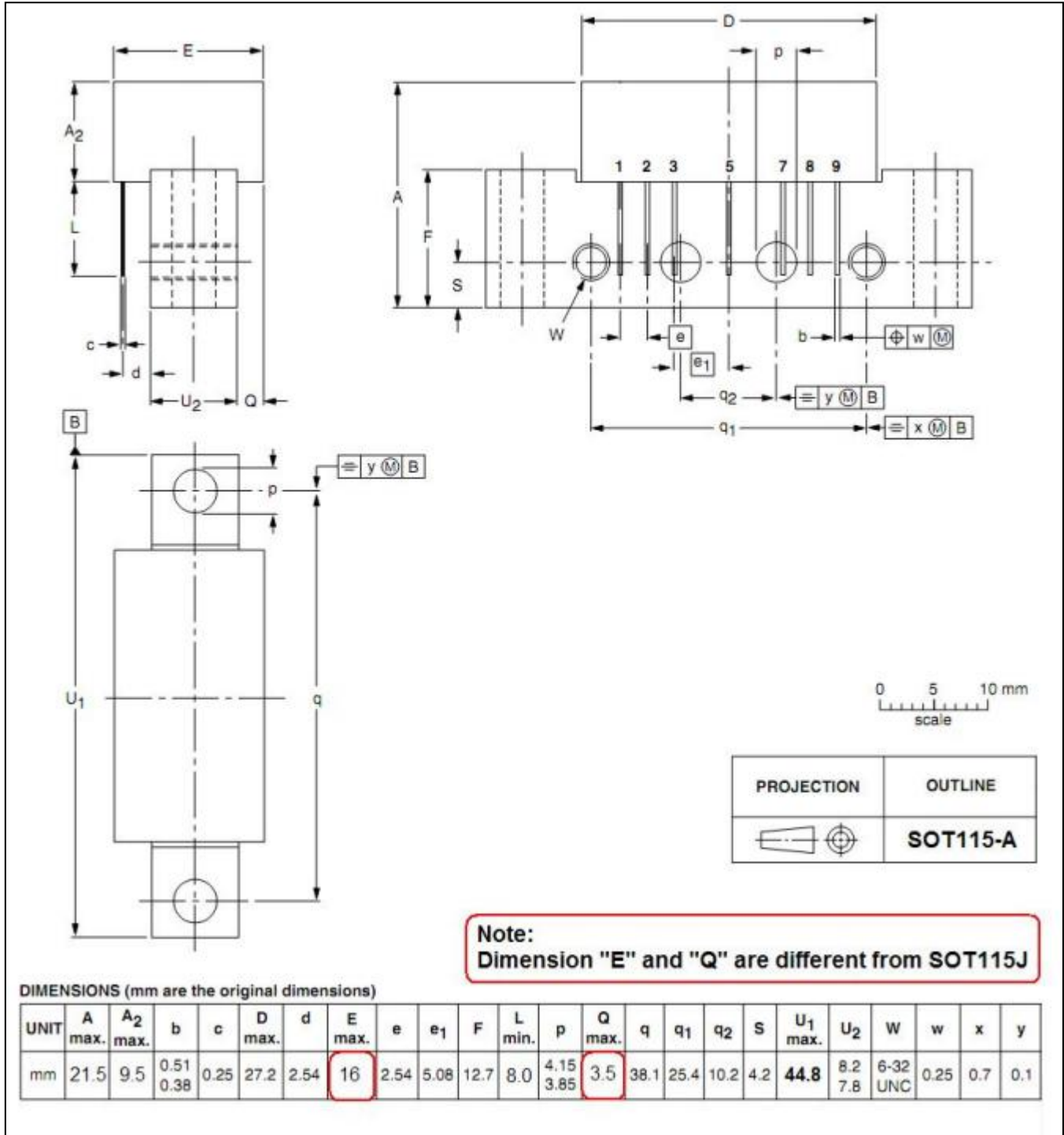
(T_C = 30±5°C, V_B = 24 V, Z_S = Z_L = 75 Ω) 0

Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
Power Gain	G _p	f = 10 MHz	29.5	30.0	31.0	dB
Gain Slope	SL	f = 5 to 75MHz	-0.2	0.2	0.8	dB
Gain Flatness	FL	f = 5 to 75 MHz	-	-	±0.3	dB
Noise Figure	NF	f = 75 MHz	-	4.0	6.0	dB
Operating Current	IB	V _B =24VDC, RF OFF	130	145	160	mA
Composite Triple Beat	CTB	4 channels, flat output level across the band VO = 50dBmV at 57.75 MHz,	-	-70	-	dB
Cross Modulation	XM		-	-68	-	dB
Composite 2nd Order Beat	CSO		-	-72	-	dB
Input Return Loss	S11	f = 5 to 75MHz	17	-	-	dB
Output Return Loss	S22	f = 5 to 75 MHz	17	-	-	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.

SOT115-A



UNIT: mm

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