

75MHz CATV 25dB 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

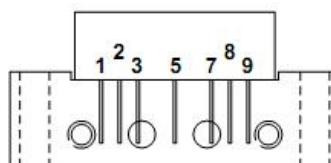
Bandwidth 5 MHz to 75 MHz; $V_B = 24\text{ V}$; $T_{mb} = 30\text{ }^\circ\text{C}$; $Z_S = Z_L = 75\text{ }\Omega$.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
G_p	power gain	$f = 10\text{ MHz}$	24.5	25.0	26.0	dB
I_{tot}	total current	$V_B = 24\text{ V}$	130	145	160	mA

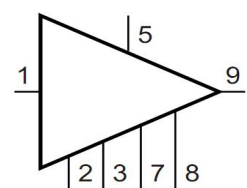
2. Pin information

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) ($T_A = +25^{\circ}\text{C}$)

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	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40	+100	$^{\circ}\text{C}$

[1] In case of single tone

3.2 Recommended operating conditions ($Z_S = Z_L = 75\ \Omega$)

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	$^{\circ}\text{C}$

4. Electrical characteristics

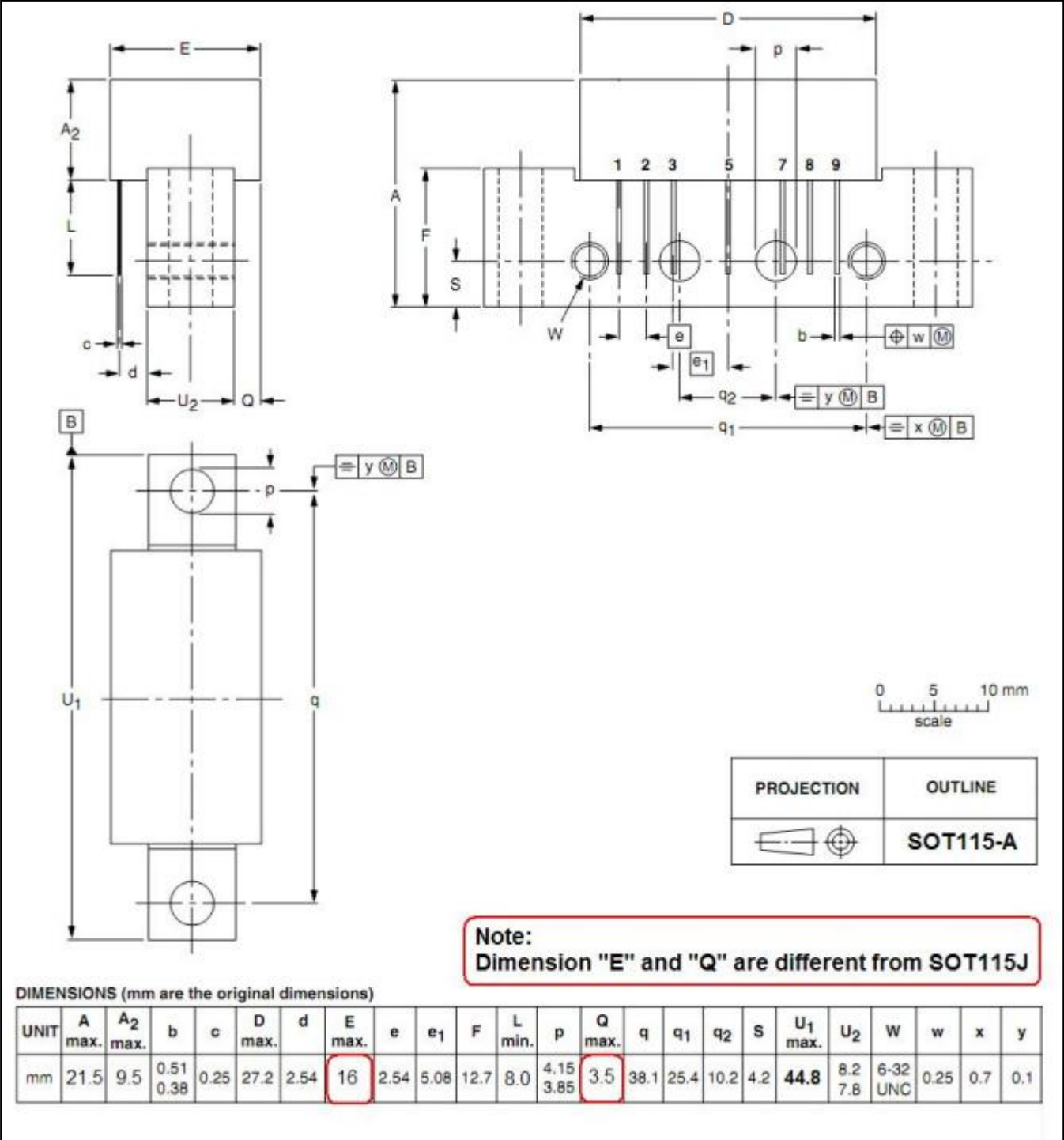
($T_C = 30 \pm 5^{\circ}\text{C}$, $V_B = 24\ \text{V}$, $Z_S = Z_L = 75\ \Omega$) 0

Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
Power Gain	G_p	$f = 10\ \text{MHz}$	24.5	25.0	26.0	dB
Gain Slope	SL	$f = 5\ \text{to}\ 75\ \text{MHz}$	-0.2	0.2	0.8	dB
Gain Flatness	FL	$f = 5\ \text{to}\ 75\ \text{MHz}$	-	-	± 0.3	dB
Noise Figure	NF	$f = 75\ \text{MHz}$	-	4.0	6.0	dB
Operating Current	IB	$V_B = 24\ \text{VDC}$, RF OFF	130	145	160	mA
Composite Triple Beat	CTB	4 channels, flat output level across the band $V_O = 50\ \text{dBmV}$ at 57.75 MHz,	-	-70	-	dB
Cross Modulation	XM		-	-68	-	dB
Composite 2nd Order Beat	CSO		-	-72	-	dB
Input Return Loss	S11	$f = 5\ \text{to}\ 75\ \text{MHz}$	17	-	-	dB
Output Return Loss	S22	$f = 5\ \text{to}\ 75\ \text{MHz}$	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

Comm Devices MFG Inc. 917 Westridge Dr. Milpitas, CA 95035
For sales or technical support, contact CDM at +1 408 809 6208 or customerservice@lineardevicesinc.com
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