

CATV Amplifier Module

Features

- Specified for 77- and 110-Channel Loading
- Excellent Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

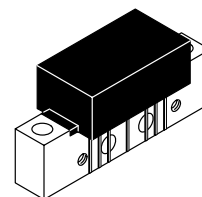
- CATV Systems Operating in the 40 to 750 MHz Frequency Range
- Input Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Output Stage Amplifier on Applications Requiring Low Power Dissipation

Description

- 24 Vdc Supply, 40 to 750 MHz, CATV Forward Amplifier

MHW7242A

**750 MHz
24.7 dB GAIN
110-CHANNEL
CATV AMPLIFIER**



CASE 1302-01, STYLE 1

ARCHIVE INFORMATION

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Table 1. Maximum Ratings

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+55	dBmV
DC Supply Voltage	V_{CC}	+28	Vdc
Operating Case Temperature Range	T_C	- 20 to +100	°C
Storage Temperature Range	T_{stg}	- 40 to +100	°C

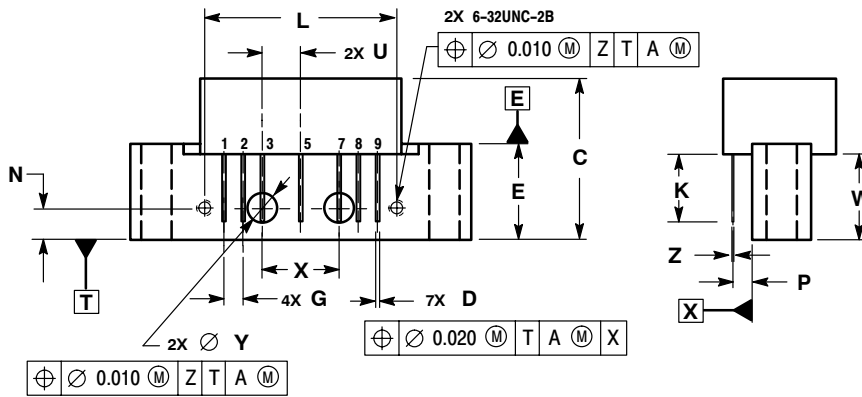
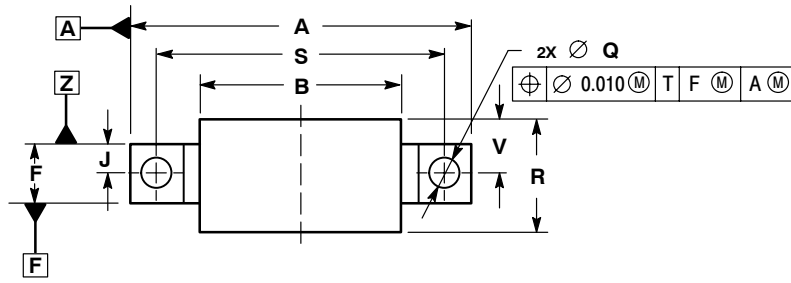
Table 2. Electrical Characteristics ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	G_p	23.2	24	24.8	dB
		24	24.7	26	
Slope	S	0	0.6	1.5	dB
Gain Flatness (40 - 750 MHz, Peak To Valley)	G_F	—	0.4	0.6	dB
Return Loss — Input/Output ($Z_o = 75$ Ohms)	IRL/ORL	20	—	—	dB
		—	—	0.007	dB/MHz
Composite Second Order					dBc
($V_{out} = +40$ dBmV/ch., Worst Case)	CSO_{110}	—	- 69	- 62	
($V_{out} = +44$ dBmV/ch., Worst Case)	CSO_{77}	—	- 78	—	

Table 2. Electrical Characteristics ($V_{CC} = 24 \text{ Vdc}$, $T_C = +30^\circ\text{C}$, 75Ω system unless otherwise noted) (continued)

Characteristic		Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion @ Ch 2 ($V_{out} = +40 \text{ dBmV/ch.}$, FM = 55 MHz) ($V_{out} = +44 \text{ dBmV/ch.}$, FM = 55 MHz)	110-Channel FLAT	XMD ₁₁₀	—	- 63	- 61	dBc
	77-Channel FLAT	XMD ₇₇	—	- 58	—	
Composite Triple Beat ($V_{out} = +40 \text{ dBmV/ch.}$, Worst Case) ($V_{out} = +44 \text{ dBmV/ch.}$, Worst Case)	110-Channel FLAT	CTB ₁₁₀	—	- 67	- 63	dBc
	77-Channel FLAT	CTB ₇₇	—	- 64	—	
Noise Figure	50 MHz	NF	—	4.8	5.5	dB
	750 MHz		—	5.5	7	
DC Current		I_{DC}	280	318	350	mA

PACKAGE DIMENSIONS



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	---	1.775	---	45.085
B	---	1.085	---	27.559
C	---	0.840	---	21.336
D	0.015	0.021	0.381	0.533
E	0.465	0.510	11.811	12.954
F	0.300	0.325	7.62	8.255
G	0.100 BSC		2.540 BSC	
J	0.156 BSC		3.962 BSC	
K	0.315	0.355	8.001	9.017
L	1.000 BSC		25.400 BSC	
N	0.165 BSC		4.191 BSC	
P	0.100 BSC		2.540 BSC	
Q	0.148	0.168	3.759	4.267
R	---	0.600	---	15.24
S	1.500 BSC		38.100 BSC	
U	0.200 BSC		5.080 BSC	
V	---	0.250	---	6.350
W	0.435	---	11.049	---
X	0.400 BSC		10.160 BSC	
Y	0.152	0.163	3.861	4.140
Z	0.009	0.011	0.229	0.279

- STYLE 1:
 PIN 1: RF INPUT
 2: GROUND
 3: GROUND
 4: DELETED
 5: VDC
 6: DELETED
 7: GROUND
 8: GROUND
 9: RF OUTPUT

CASE 1302-01
 ISSUE B

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