

CATV Amplifier Module

Features

- Specified for up to 112-Channel Loading
- Excellent Distortion Performance
- Superior Gain, Return Loss and DC Current Stability over Temperature
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

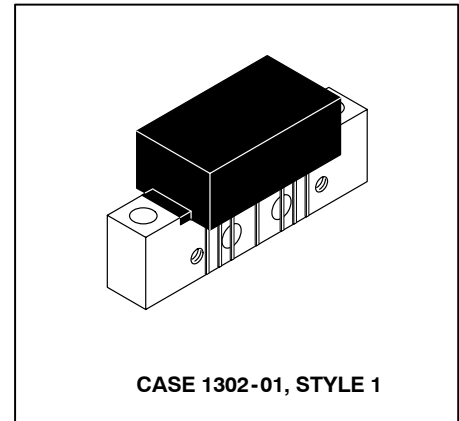
- CATV Systems Operating in the 40 to 750 MHz Frequency Range
- Single Module High Gain Line Amplifier in Cable TV Distribution System

Description

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

MHW7342

**750 MHz
 35.2 dB GAIN
 112-CHANNEL
 CATV AMPLIFIER MODULE**



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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	33.2	34	34.8	dB
		33.8	35.2	36	
Slope	S	0.3	1.2	2.25	dB
Gain Flatness (Peak To Valley)	G_F	—	0.3	0.8	dB
Return Loss — Input ($Z_o = 75$ Ohms)	IRL				dB
		22	28	—	
		18	25	—	
		16	22	—	
		14	19	—	
Return Loss — Output ($Z_o = 75$ Ohms)	ORL				dB
		22	28	—	
		19	25	—	
		17	22	—	
		15	22	—	

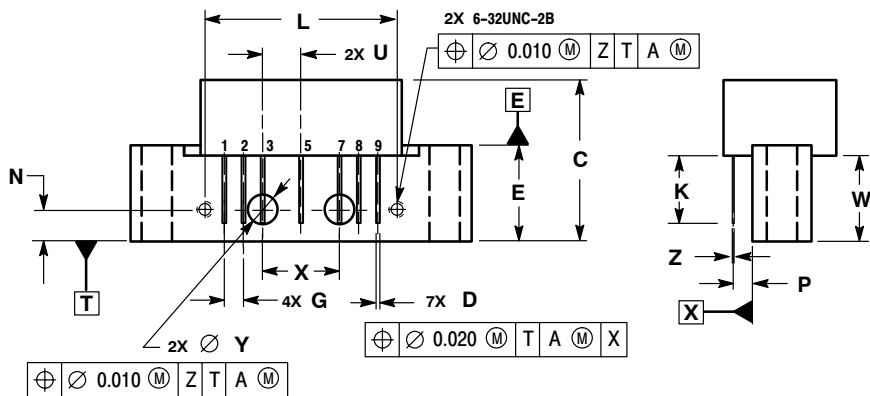
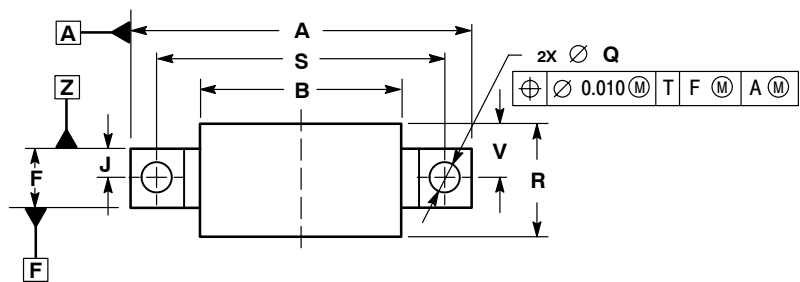
Table 2. Electrical Characteristics ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted) (continued)

Characteristic		Symbol	Min	Typ	Max	Unit
Composite Second Order ($V_{out} = +44$ dBmV/ch., Worst Case)	79-Channel FLAT	CSO_{79}	—	-65	-57	dBc
	112-Channel FLAT	CSO_{112}	—	-55	-50	
Cross Modulation Distortion ($V_{out} = +44$ dBmV, FM = 55.25 MHz)	79-Channel FLAT	XMD_{79}	—	-63	-60	dBc
	112-Channel FLAT	XMD_{112}	—	-56	-53	
Composite Triple Beat ($V_{out} = +44$ dBmV/ch., Worst Case)	79-Channel FLAT	CTB_{79}	—	-64	-62	dBc
	112-Channel FLAT	CTB_{112}	—	-54	-52	
Noise Figure	50 MHz	NF	—	3.5	4.5	dB
	550 MHz		—	4.5	—	
	750 MHz		—	5	6	
DC Current		I_{DC}	310	325	350	mA

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PACKAGE DIMENSIONS



NOTES:
 1. DIMENSIONS ARE IN INCHES.
 2. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 1994.

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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