

The RF Line CATV Amplifier Module

Features

- Specified for 77-, 110- and 128-Channel Loading
- Excellent Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

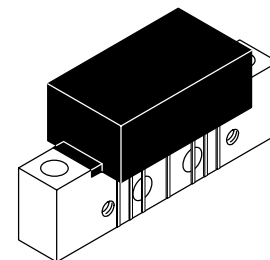
- CATV Systems Operating in the 40 to 870 MHz Frequency Range
- Input Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Output Stage Amplifier on Applications Requiring Low Power Dissipation

Description

- 24 Vdc Supply, 40 to 870 MHz, CATV Forward Amplifier

MHW8202B

**870 MHz
20.9 dB GAIN
128-CHANNEL
CATV AMPLIFIER**



CASE 1302-01, STYLE 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
DC Supply Voltage	V_{CC}	+28	Vdc
RF Input Voltage (Single Tone)	V_{in}	+70	dBmV
Operating Case Temperature Range	T_C	-20 to +100	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

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	—	870	MHz
Power Gain	G_p	f = 50 MHz 19.8 f = 870 MHz 20.3	20.4 20.9	20.8 21.8	dB
Slope (f = 40 - 870 MHz)	S	—	0.5	1.2	dB
Gain Flatness (Peak To Valley)	G_F	—	0.4	0.6	dB
Input/Output Return Loss @ f = 40 MHz	IRL/ORL	20	21	—	dB
Derate Return Loss @ f > 40 MHz	RLD	—	—	0.005	dB/MHz
Composite Second Order					dBc
($V_{out} = +38$ dBmV/ch; 128-Channels, Worst Case)	CSO_{128}	—	-71	-66	
($V_{out} = +40$ dBmV/ch; 110-Channels, Worst Case)	CSO_{110}	—	-70	-65	
($V_{out} = +44$ dBmV/ch; 77-Channels, Worst Case)	CSO_{77}	—	-75	-70	

ELECTRICAL CHARACTERISTICS — continued ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, $75\ \Omega$ system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion ($V_{out} = +38$ dBmV/ch, 128-Channels, Worst Case) ($V_{out} = +40$ dBmV/ch, 110-Channels, Worst Case) ($V_{out} = +44$ dBmV/ch, 77-Channels, Worst Case)	XMD ₁₂₈	—	- 67	- 62	dBc
	XMD ₁₁₀	—	- 65	- 61	
	XMD ₇₇	—	- 58	- 57	
Composite Triple Beat ($V_{out} = +38$ dBmV/ch, 128-Channels, Worst Case) ($V_{out} = +40$ dBmV/ch, 110-Channels, Worst Case) ($V_{out} = +44$ dBmV/ch, 77-Channels, Worst Case)	CTB ₁₂₈	—	- 67	- 63	dBc
	CTB ₁₁₀	—	- 66	- 63	
	CTB ₇₇	—	- 65	- 63	
Noise Figure $f = 50$ MHz $f = 750$ MHz $f = 870$ MHz	NF	—	3.8	5.0	dB
		—	5.0	6.5	
		—	5.6	7.0	
DC Current	I_{DC}	180	220	240	mA

ARCHIVE INFORMATION

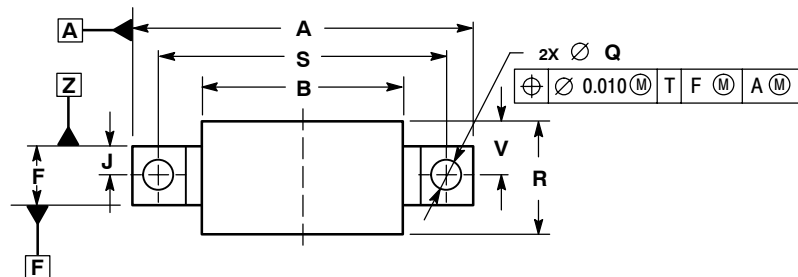
ARCHIVE INFORMATION

NOTES

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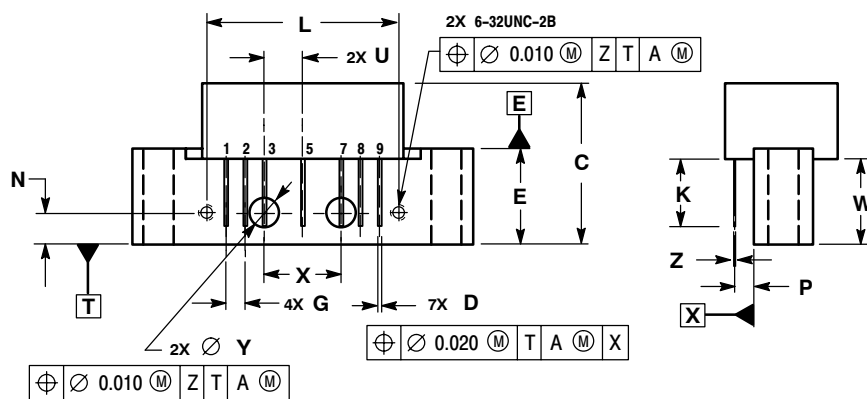
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PACKAGE DIMENSIONS



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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