

## The RF Line

# CATV Amplifier Module

### Features

- Specified for 6- and 10-Channel Loading
- Excellent Distortion Performance
- Low Power Consumption
- Capable of Handling Multiple Channels in the Return Path with Good Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

### Applications

- CATV Systems Operating in the 5 to 150 MHz Frequency Range
- Specified for Use as a Return Path Amplifier for Low-, Mid- and High-Split 2-Way Cable TV Systems

### Description

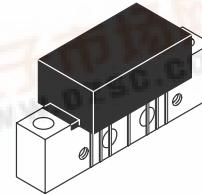
- 24 Vdc Supply, 5 to 150 MHz, CATV Reverse Amplifier

**MHW1353LA**

5-150 MHz, 35.2 dB

10-CHANNEL

CATV LOW CURRENT AMPLIFIER



CASE 1302-01, STYLE 1

### MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
DC Supply Voltage	V <sub>CC</sub>	+28	Vdc
RF Input Voltage (Single Tone)	V <sub>in</sub>	+60	dBmV
Operating Case Temperature Range	T <sub>C</sub>	-20 to +100	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +100	°C

### ELECTRICAL CHARACTERISTICS (V<sub>CC</sub> = 24 Vdc, T<sub>C</sub> = 30°C, 75 Ω system, unless otherwise noted)

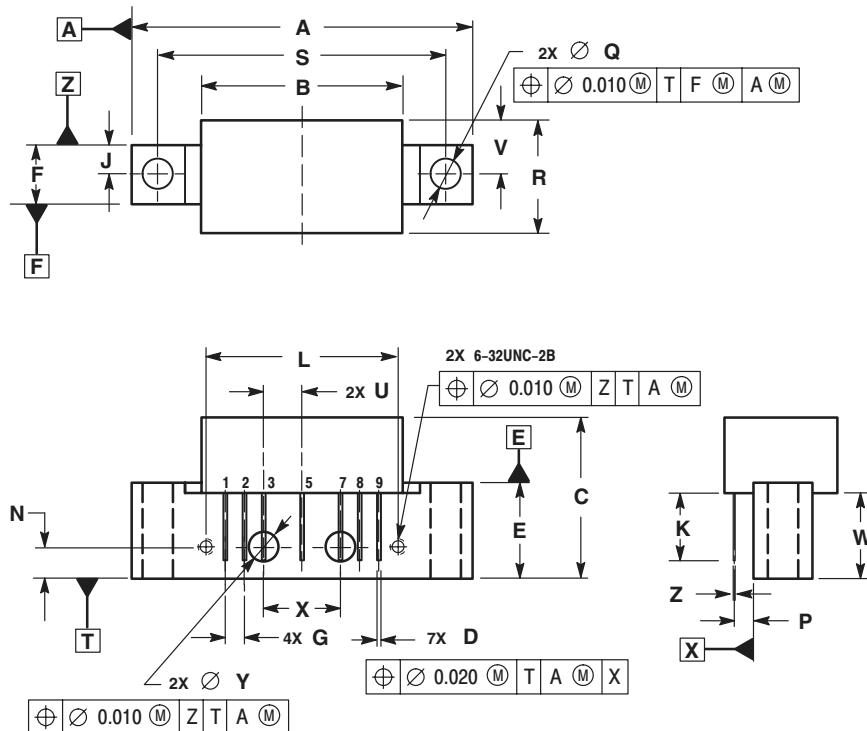
Characteristic	Symbol	Min	Typ	Max	Unit
Bandwidth All	BW	5	—	150	MHz
Power Gain (f = 5 MHz)	G <sub>p</sub>	34.5	35.2	35.7	dB
Slope (5-150 MHz)	S	0	—	1	dB
Gain Flatness (Peak To Valley) (5-150 MHz)	G <sub>F</sub>	—	—	0.7	dB
Return Loss — Input/Output (@ f = 5-65 MHz) (@ f = 65-150 MHz)	IRL/ORL	20 18	— —	— —	dB
Composite Second Order (V <sub>out</sub> = +50 dBmV per Ch., Worst Case)	CSO <sub>6</sub> CSO <sub>10</sub>	—	-73 -69	-68 -65	dBc
6-Channel FLAT 10-Channel FLAT					

**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 ( $V_{out} = +50$ dBmV per Ch., Worst Case) 6–Channel FLAT 10–Channel FLAT	XMD <sub>6</sub> XMD <sub>10</sub>	— —	—66 —60	—63 —57	dBc
Composite Triple Beat ( $V_{out} = +50$ dBmV per Ch., Worst Case) 6–Channel FLAT 10–Channel FLAT	CTB <sub>6</sub> CTB <sub>10</sub>	— —	—75 —65	—73 —62	dBc
Noise Figure ( $f = 5$ –150 MHz)	NF	—	4.4	5.4	dB
DC Current	I <sub>DC</sub>	85	95	110	mA

## NOTES

## 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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