



# CATV Amplifier Module

## Features

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

## Applications

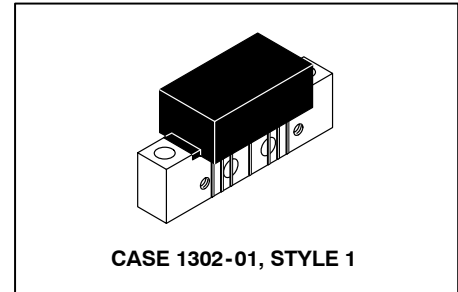
- CATV Systems Operating in the 40 to 860 MHz Frequency Range
- Input Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Output Stage Amplifier on Applications Requiring Low Power Dissipation

## Description

- 24 Vdc Supply, 40 to 860 MHz, CATV Forward Amplifier Module
- Replaced MHW8242A. There are no form, fit or function changes with this part replacement.
- RoHS Compliant

**MHW8242AN**

**860 MHz  
 25 dB GAIN  
 128-CHANNEL  
 CATV AMPLIFIER MODULE**



**Table 1. Maximum Ratings**

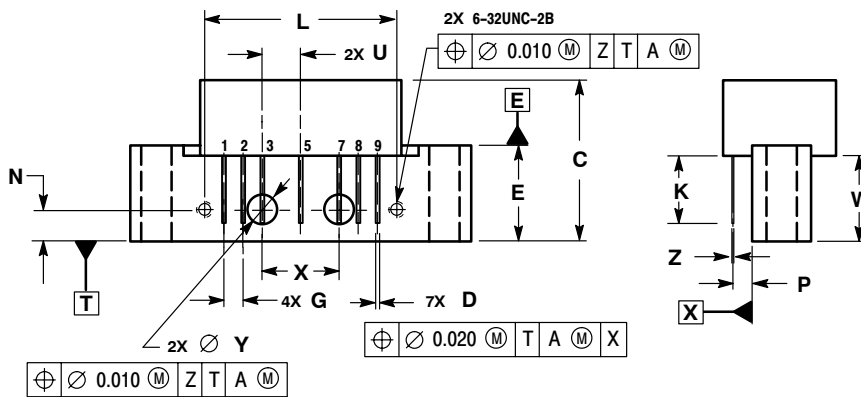
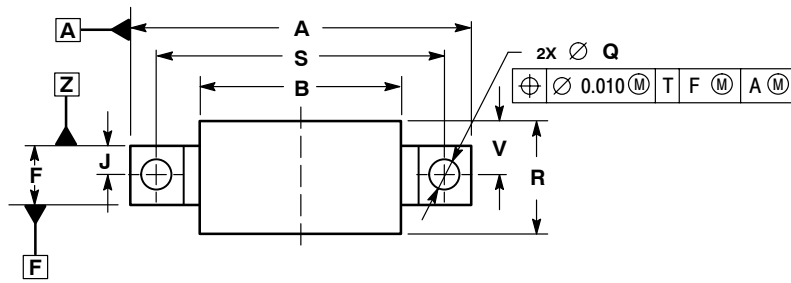
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	$V_{in}$	+55	dBmV
DC Supply Voltage	$V_{CC}$	+28	Vdc
Operating Case Temperature Range	$T_C$	- 20 to +100	°C
Storage Temperature Range	$T_{stg}$	- 40 to +100	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	860	MHz
Power Gain	$G_p$	23.2 24	24 25	24.8 26	dB
Slope	S	0	0.8	1.8	dB
Gain Flatness (40 - 860 MHz, Peak To Valley)	$G_F$	—	0.4	0.8	dB
Return Loss — Input/Output ( $Z_o = 75$ Ohms)	IRL/ORL	20 —	— —	— 0.007	dB dB/MHz
Composite Second Order ( $V_{out} = +38$ dBmV/ch., Worst Case) ( $V_{out} = +44$ dBmV/ch., Worst Case)	$CSO_{128}$ $CSO_{77}$	— —	- 69 - 78	- 62 —	dBc
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +38$ dBmV/ch., FM = 55 MHz) ( $V_{out} = +44$ dBmV/ch., FM = 55 MHz)	$XMD_{128}$ $XMD_{77}$	— —	- 65 - 58	- 62 —	dBc
Composite Triple Beat ( $V_{out} = +38$ dBmV/ch., Worst Case) ( $V_{out} = +44$ dBmV/ch., Worst Case)	$CTB_{128}$ $CTB_{77}$	— —	- 68 - 64	- 64 —	dBc
Noise Figure	NF	— —	4.8 5.8	5.5 7.5	dB
DC Current	$I_{DC}$	280	318	350	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 E**

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