

# CATV Amplifier Module

## Features

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

## Applications

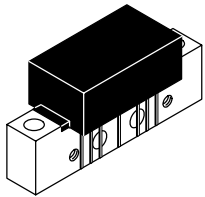
- CATV Systems Operating in the 40 to 870 MHz Frequency Range
- Input Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Output Stage Amplifier on Applications Requiring Low Power Dissipation

## Description

- 24 Vdc Supply, 40 to 870 MHz, CATV Forward Amplifier Module
- Replaced MHW8272A. There are no form, fit or function changes with this part replacement.
- RoHS Compliant

**MHW8272AN**

**870 MHz  
27.7 dB GAIN  
128-CHANNEL  
CATV AMPLIFIER MODULE**



CASE 1302-01, STYLE 1

**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   |

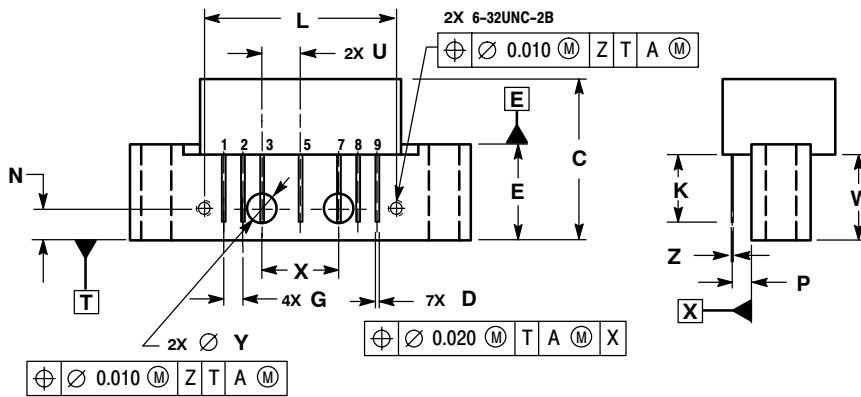
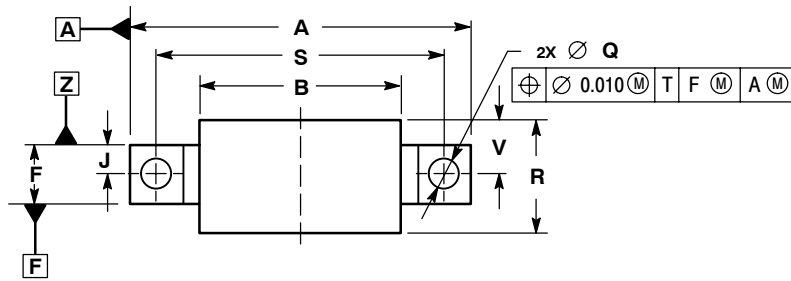
**Table 2. Electrical Characteristics** ( $V_{CC} = 24$  Vdc,  $T_C = +30^\circ\text{C}$ , 75  $\Omega$  system unless otherwise noted)

| Characteristic                                                                                  | Symbol      | Min        | Typ          | Max          | Unit         |
|-------------------------------------------------------------------------------------------------|-------------|------------|--------------|--------------|--------------|
| Frequency Range                                                                                 | BW          | 40         | —            | 870          | MHz          |
| Power Gain<br>50 MHz<br>870 MHz                                                                 | $G_p$       | 26.2<br>27 | 27.2<br>27.7 | 27.8<br>29.5 | dB           |
| Slope<br>40 - 870 MHz                                                                           | S           | 0          | 0.6          | 2            | dB           |
| Gain Flatness (40 - 870 MHz, Peak to Valley)                                                    | $G_F$       | —          | 0.4          | 0.8          | dB           |
| Return Loss — Input/Output ( $Z_o = 75$ Ohms)<br>@ 40 MHz<br>@ $f > 40$ MHz (Derate)            | IRL/ORL     | 20<br>—    | —<br>—       | —<br>0.007   | dB<br>dB/MHz |
| Composite Second Order<br>( $V_{out} = +38$ dBmV/ch., Worst Case) 128-Channel FLAT              | $CSO_{128}$ | —          | -69          | -64          | dBc          |
| Cross Modulation Distortion @ Ch 2<br>( $V_{out} = +38$ dBmV/ch., FM = 55 MHz) 128-Channel FLAT | $XMD_{128}$ | —          | -65          | -62          | dBc          |
| Composite Triple Beat<br>( $V_{out} = +38$ dBmV/ch., Worst Case) 128-Channel FLAT               | $CTB_{128}$ | —          | -69          | -64          | dBc          |
| Noise Figure<br>50 MHz<br>870 MHz                                                               | NF          | —<br>—     | —<br>6.0     | 5.5<br>7.0   | dB           |
| DC Current ( $V_{DC} = 24$ V, $T_C = 30^\circ\text{C}$ )                                        | $I_{DC}$    | 280        | 310          | 350          | mA           |

ARCHIVE INFORMATION

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# PACKAGE DIMENSIONS



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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