

# CATV Amplifier Module

## Features

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

## Applications

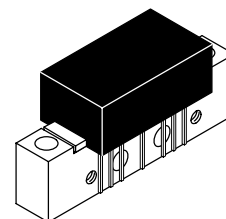
- CATV Systems Operating in the 40 to 770 MHz Frequency Range
- Input Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Output Stage Amplifier on Applications Requiring Low Power Dissipation

## Description

- 24 Vdc Supply, 40 to 770 MHz, CATV Forward Amplifier Module
- Replaced MHW7292A. There are no form, fit or function changes with this part replacement.
- RoHS Compliant

**MHW7292AN**

**770 MHz, 29.8 dB GAIN  
110-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         | —          | 770        | MHz          |
| Power Gain<br>50 MHz<br>770 MHz                                                                    | $G_p$       | 28.2<br>29 | 29<br>29.8 | 29.8<br>31 | dB           |
| Slope<br>40 - 770 MHz                                                                              | S           | 0          | 0.7        | 2          | dB           |
| Gain Flatness (40 - 750 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>( $V_{out} = +40$ dBmV/ch., Worst Case)<br>110-Channel FLAT              | $CSO_{110}$ | —          | - 70       | - 60       | dBc          |
| Cross Modulation Distortion @ Ch 2<br>( $V_{out} = +40$ dBmV/ch., FM = 55 MHz)<br>110-Channel FLAT | $XMD_{110}$ | —          | - 62       | - 60       | dBc          |
| Composite Triple Beat<br>( $V_{out} = +40$ dBmV/ch., Worst Case)<br>110-Channel FLAT               | $CTB_{110}$ | —          | - 62       | - 60       | dBc          |
| Noise Figure<br>50 MHz<br>770 MHz                                                                  | NF          | —<br>—     | —<br>5.5   | 5.5<br>6.5 | dB           |
| DC Current ( $V_{DC} = 24$ V, $T_C = 30^\circ\text{C}$ )                                           | $I_{DC}$    | 280        | 310        | 350        | mA           |

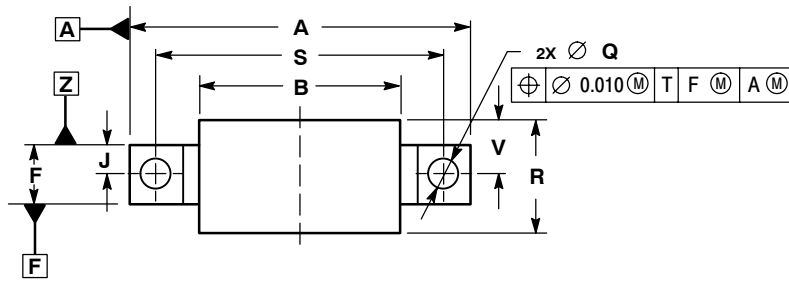


NOTES

ARCHIVE INFORMATION

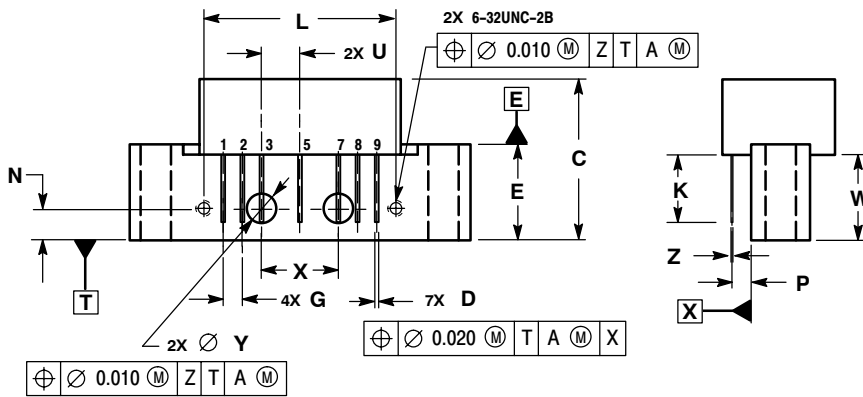
ARCHIVE INFORMATION

# 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
  - GROUND
  - GROUND
  - DELETED
  - VDC
  - DELETED
  - GROUND
  - GROUND
  - RF OUTPUT

CASE 1302-01  
ISSUE B

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