

# The RF Line CATV Amplifier Module

## Features

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

## Applications

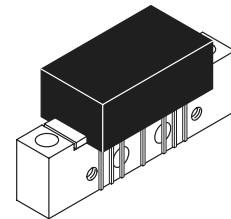
- CATV Systems Operating in the 40 to 770 MHz Frequency Range
- Input Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Output Stage Amplifier on Applications Requiring Low Power Dissipation

## Description

- 24 Vdc Supply, 40 to 770 MHz, CATV Forward Amplifier

**MHW7292A**

**770 MHz, 29.8 dB GAIN  
 110-CHANNEL  
 CATV AMPLIFIER**



**CASE 1302-01, STYLE 1**

## MAXIMUM RATINGS

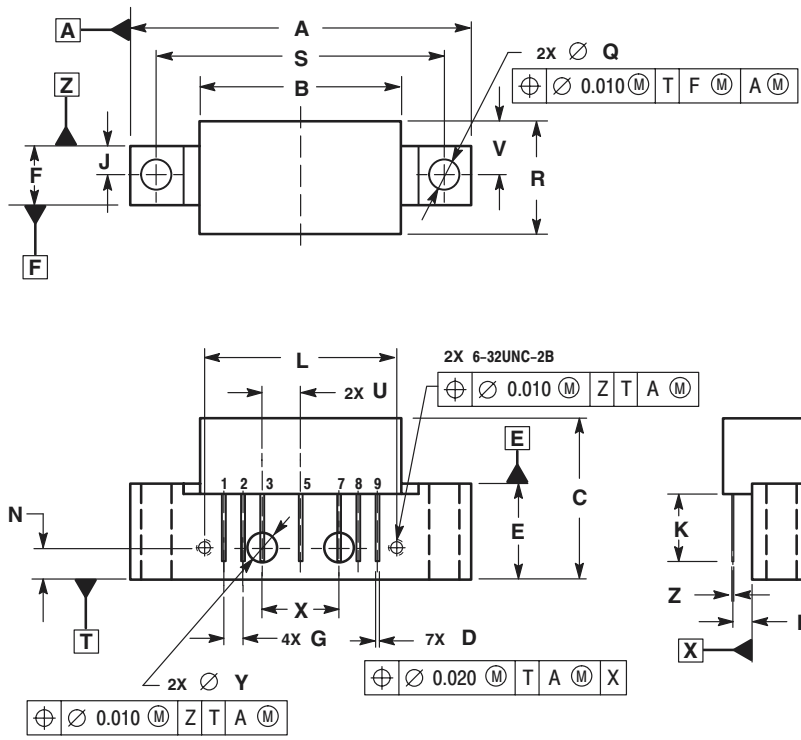
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	$V_{in}$	+55	dBmV
DC Supply Voltage	$V_{CC}$	+28	Vdc
Operating Case Temperature Range	$T_C$	-20 to +100	°C
Storage Temperature Range	$T_{stg}$	-40 to +100	°C

## 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	$G_p$	28.2 29	29 29.8	29.8 31	dB
Slope	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)	IRL/ORL	20 —	— —	— 0.007	dB dB/MHz
Composite Second Order ( $V_{out} = +40$ dBmV/ch., Worst Case)	$CSO_{110}$	—	-70	-60	dBc
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +40$ dBmV/ch., FM = 55 MHz)	$XMD_{110}$	—	-62	-60	dBc
Composite Triple Beat ( $V_{out} = +40$ dBmV/ch., Worst Case)	$CTB_{110}$	—	-62	-60	dBc
Noise Figure	NF	— —	— 5.5	5.5 6.5	dB
DC Current ( $V_{DC} = 24$ V, $T_C = 30^\circ\text{C}$ )	$I_{DC}$	280	310	350	mA

# Freescale Semiconductor, Inc.

## 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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