



# CATV Amplifier Module

## Features

- Specified for up to 132-Channel Loading
- Excellent Distortion Performance
- Superior Gain, Return Loss and DC Current Stability over Temperature
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

## Applications

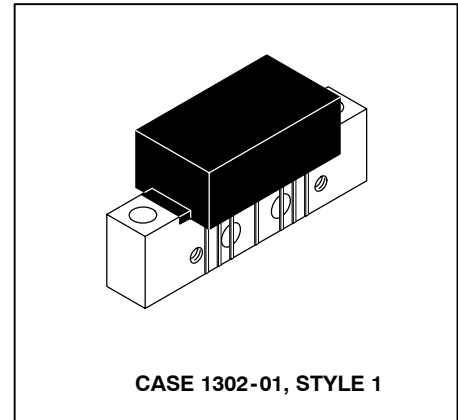
- CATV Systems Operating in the 40 to 870 MHz Frequency Range
- Single Module High Gain Line Amplifier in Cable TV Distribution System

## Description

- 24 Vdc Supply, 40 to 870 MHz, CATV High Gain Forward Amplifier Module
- Replaced MHW8342. There are no form, fit or function changes with this part replacement.
- RoHS Compliant

**MHW8342N**

**870 MHz  
 35.5 dB GAIN  
 132-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	—	870	MHz
Power Gain	$G_p$	33.2	34	34.8	dB
		34	35.5	37	
Slope	S	0.5	1.5	2.75	dB
Gain Flatness (Peak To Valley)	$G_F$	—	0.3	0.8	dB
Return Loss — Input ( $Z_0 = 75$ Ohms)	IRL				dB
		22	28	—	
		18	25	—	
		16	22	—	
		14	19	—	
Return Loss — Output ( $Z_0 = 75$ Ohms)	ORL				dB
		22	28	—	
		19	25	—	
		17	22	—	
		15	22	—	

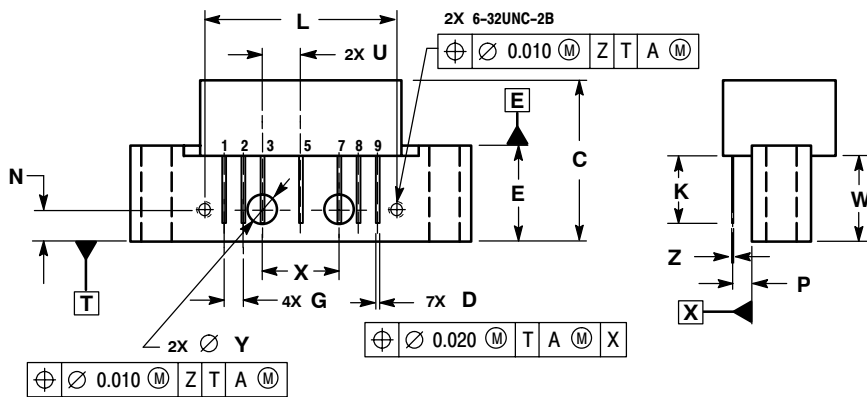
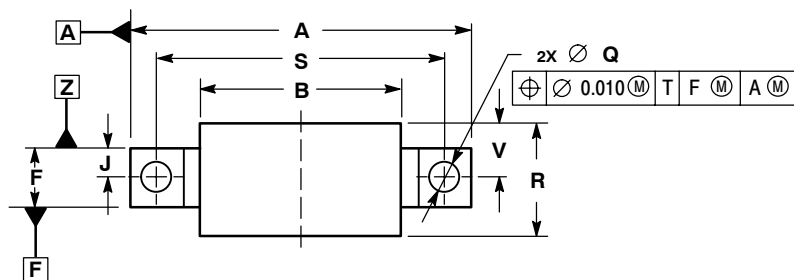
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**Table 2. Electrical Characteristics** ( $V_{CC} = 24$  Vdc,  $T_C = +30^\circ\text{C}$ ,  $75\ \Omega$  system unless otherwise noted) (continued)

Characteristic		Symbol	Min	Typ	Max	Unit
Composite Second Order						dBc
( $V_{out} = +44$ dBmV/ch., Worst Case)	79-Channel FLAT	CSO <sub>79</sub>	—	-65	-60	
( $V_{out} = +44$ dBmV/ch., Worst Case)	112-Channel FLAT	CSO <sub>112</sub>	—	-55	-50	
( $V_{out} = +44$ dBmV/ch., Worst Case)	132-Channel FLAT	CSO <sub>132</sub>	—	-48	-44	
Cross Modulation Distortion						dBc
( $V_{out} = +44$ dBmV, FM = 55.25 MHz)	79-Channel FLAT	XMD <sub>79</sub>	—	-63	-60	
( $V_{out} = +44$ dBmV, FM = 55.25 MHz)	112-Channel FLAT	XMD <sub>112</sub>	—	-56	-52	
( $V_{out} = +44$ dBmV, FM = 55.25 MHz)	132-Channel FLAT	XMD <sub>132</sub>	—	-56	-50	
Composite Triple Beat						dBc
( $V_{out} = +44$ dBmV/ch., Worst Case)	79-Channel FLAT	CTB <sub>79</sub>	—	-64	-62	
( $V_{out} = +44$ dBmV/ch., Worst Case)	112-Channel FLAT	CTB <sub>112</sub>	—	-54	-51	
( $V_{out} = +44$ dBmV/ch., Worst Case)	132-Channel FLAT	CTB <sub>132</sub>	—	-50	-46	
Noise Figure	50 MHz	NF	—	3.5	4.5	dB
	550 MHz		—	4.5	—	
	870 MHz		—	5.5	6.5	
DC Current		$I_{DC}$	310	325	350	mA

# 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 E

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**USA/Europe or Locations Not Listed:**  
Freescale Semiconductor  
Technical Information Center, CH370  
1300 N. Alma School Road  
Chandler, Arizona 85224  
+1-800-521-6274 or +1-480-768-2130  
support@freescale.com

**Europe, Middle East, and Africa:**  
Freescale Halbleiter Deutschland GmbH  
Technical Information Center  
Schatzbogen 7  
81829 Muenchen, Germany  
+44 1296 380 456 (English)  
+46 8 52200080 (English)  
+49 89 92103 559 (German)  
+33 1 69 35 48 48 (French)  
support@freescale.com

**Japan:**  
Freescale Semiconductor Japan Ltd.  
Headquarters  
ARCO Tower 15F  
1-8-1, Shimo-Meguro, Meguro-ku,  
Tokyo 153-0064  
Japan  
0120 191014 or +81 3 5437 9125  
support.japan@freescale.com

**Asia/Pacific:**  
Freescale Semiconductor Hong Kong Ltd.  
Technical Information Center  
2 Dai King Street  
Tai Po Industrial Estate  
Tai Po, N.T., Hong Kong  
+800 2666 8080  
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