



CATV Amplifier Module

Features

- Specified for 77-, 110- and 128-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 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 MHW8182C. There are no form, fit or function changes with this part replacement.
- RoHS Compliant

MHW8182CN

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

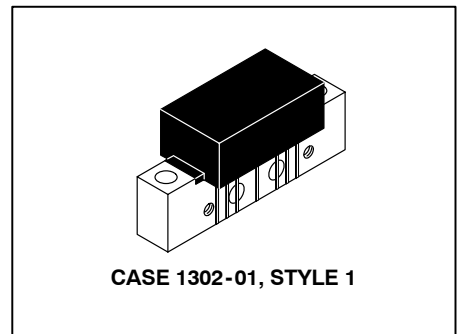


Table 1. Maximum Ratings

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+70	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

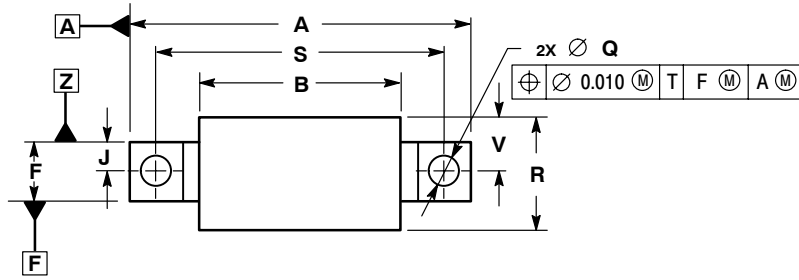
Table 2. Electrical Characteristics ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	860	MHz
Power Gain	G_p	18	18.5	19	dB
		18.2	19.1	20.5	
Slope	S	0	0.7	2.5	dB
Gain Flatness (40 - 860 MHz, Peak to Valley)	G_F	—	0.3	0.6	dB
Return Loss — Input/Output ($Z_o = 75$ Ohms)	IRL/ORL				
		20	—	—	dB
		—	—	0.005	dB/MHz
Composite Second Order					dBc
($V_{out} = +38$ dBmV/ch., Worst Case) 128-Channel FLAT	CSO_{128}	—	-71	-64	
($V_{out} = +40$ dBmV/ch., Worst Case) 110-Channel FLAT	CSO_{110}	—	-70	-63	
($V_{out} = +44$ dBmV/ch., Worst Case) 77-Channel FLAT	CSO_{77}	—	-70	-64	

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

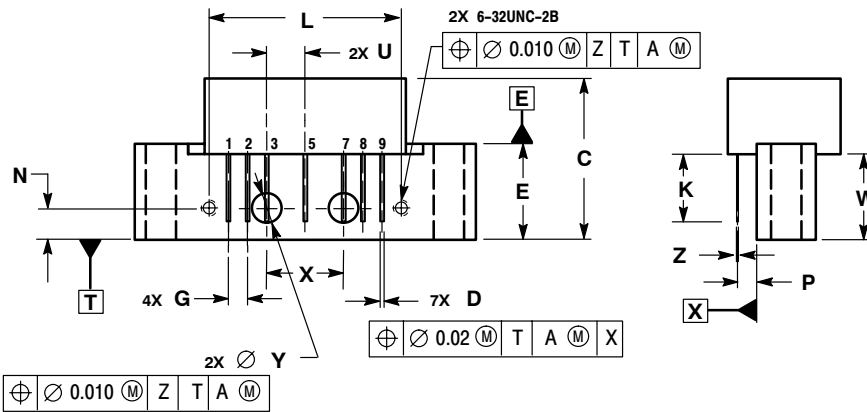
Characteristic		Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion @ Ch 2						dBc
($V_{out} = +38 \text{ dBmV/ch.}$, FM = 55 MHz)	128-Channel FLAT	XMD_{128}	—	-68	-65	
($V_{out} = +40 \text{ dBmV/ch.}$, FM = 55 MHz)	110-Channel FLAT	XMD_{110}	—	-66	-64	
($V_{out} = +44 \text{ dBmV/ch.}$, FM = 55 MHz)	77-Channel FLAT	XMD_{77}	—	-61	-59	
Composite Triple Beat						dBc
($V_{out} = +38 \text{ dBmV/ch.}$, Worst Case)	128-Channel FLAT	CTB_{128}	—	-69	-66	
($V_{out} = +40 \text{ dBmV/ch.}$, Worst Case)	110-Channel FLAT	CTB_{110}	—	-68	-66	
($V_{out} = +44 \text{ dBmV/ch.}$, Worst Case)	77-Channel FLAT	CTB_{77}	—	-66	-64	
Noise Figure	50 MHz	NF	—	4.0	5.0	dB
	550 MHz		—	4.5	—	
	750 MHz		—	5.0	6.5	
	860 MHz		—	5.5	7.5	
DC Current ($V_{DC} = 24 \text{ V}$, $T_C = 30^\circ\text{C}$)		I_{DC}	180	220	240	mA

PACKAGE DIMENSIONS



- NOTES:
 1. CONTROLLING DIMENSION: INCH.
 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	7.620	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	----	15.240
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

How to Reach Us:

Home Page:
www.freescale.com

E-mail:
support@freescale.com

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
support.asia@freescale.com

For Literature Requests Only:
Freescale Semiconductor Literature Distribution Center
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Fax: 303-675-2150
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