

The RF Line CATV Amplifier Module

Features

- Specified for 77-, 110- and 128-Channel Loading
- Excellent Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

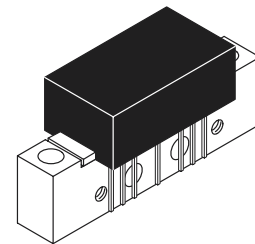
- CATV Systems Operating in the 40 to 860 MHz Frequency Range
- Output Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems

Description

- 24 Vdc Supply, 40 to 860 MHz, CATV Forward Power Doubler Amplifier

MHW8205

**860 MHz
20.2 dB GAIN
128-CHANNEL
CATV AMPLIFIER**



CASE 714Y-03, STYLE 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

ELECTRICAL CHARACTERISTICS ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

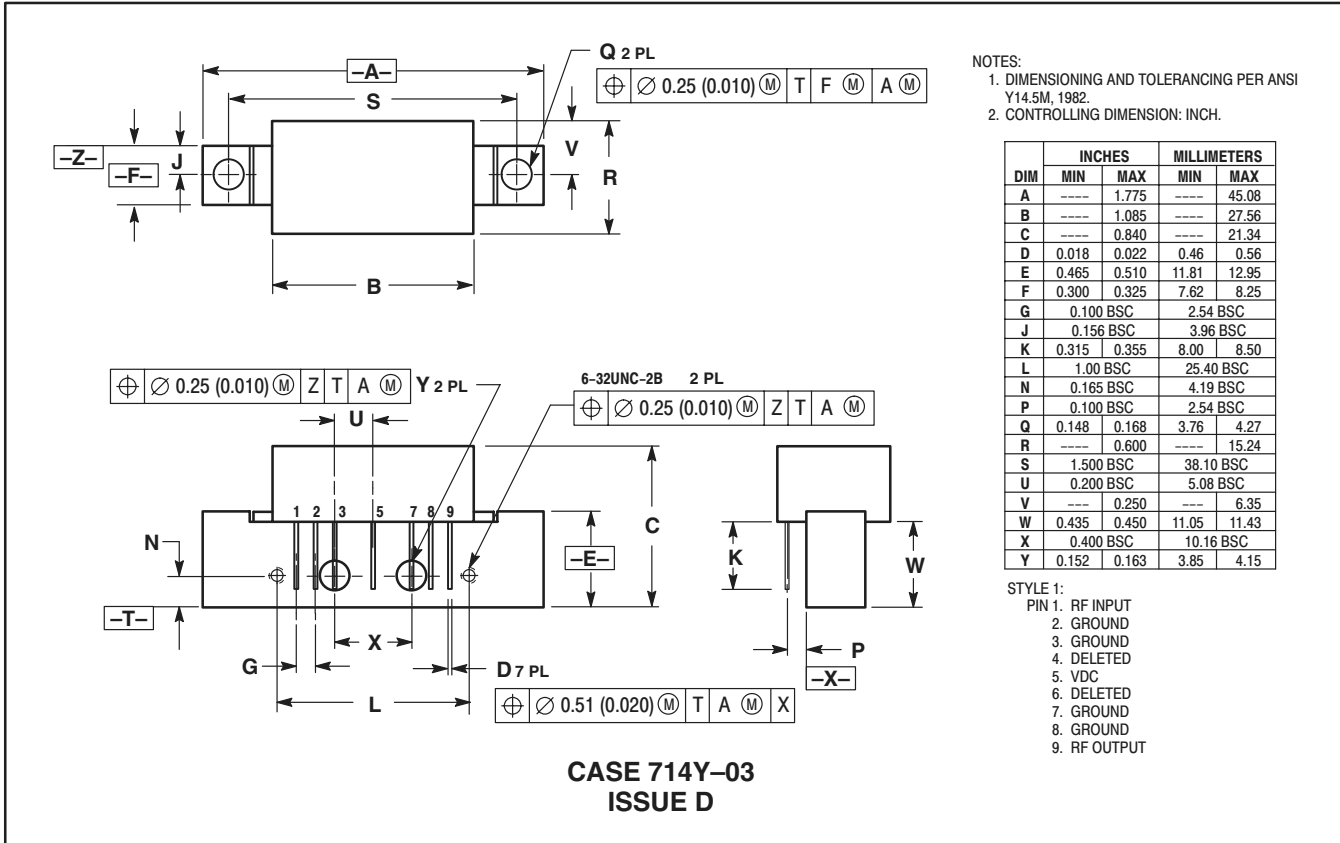
Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	860	MHz
Power Gain	G_p	19.3 20	19.8 20.2	20.3 21.5	dB
Slope	S	0	.4	1.5	dB
Gain Flatness (40–860 MHz, Peak to Valley)	G_F	—	0.3	1.0	dB
Return Loss — Input/Output ($Z_o = 75$ Ohms)	IRL/ORL	19	—	—	dB
		—	—	0.006	dB/MHz
Composite Second Order					dBc
($V_{out} = +40$ dBmV/ch., Worst Case)	CSO ₁₂₈	—	-69	-60	
($V_{out} = +44$ dBmV/ch., Worst Case)	CSO ₁₁₀	—	-70	-63	
	CSO ₇₇	—	-80	-68	

ELECTRICAL CHARACTERISTICS — continued ($V_{CC} = 24 \text{ Vdc}$, $T_C = +30^\circ\text{C}$, 75Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion @ Ch 2 ($V_{out} = +40 \text{ dBmV/ch.}$, FM = 55 MHz)	128-Channel FLAT	XMD_{128}	—	-72	-64	dBc
	110-Channel FLAT	XMD_{110}	—	-67	-62	
	77-Channel FLAT	XMD_{77}	—	-71	-68	
Composite Triple Beat ($V_{out} = +40 \text{ dBmV/ch.}$, Worst Case)	128-Channel FLAT	CTB_{128}	—	-66	-63	dBc
	110-Channel FLAT	CTB_{110}	—	-63	-61	
	77-Channel FLAT	CTB_{77}	—	-71	-69	
Noise Figure	50 MHz	NF	—	5.0	6.0	dB
	550 MHz		—	5.8	—	
	750 MHz		—	6.2	—	
	860 MHz		—	7.0	8.0	
DC Current ($V_{DC} = 24 \text{ V}$, $T_C = 30^\circ\text{C}$)		I_{DC}	365	400	435	mA

NOTES

PACKAGE DIMENSIONS



NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	----	1.775	----	45.08
B	----	1.085	----	27.56
C	----	0.840	----	21.34
D	0.018	0.022	0.46	0.56
E	0.465	0.510	11.81	12.95
F	0.300	0.325	7.62	8.25
G	0.100 BSC		2.54 BSC	
J	0.156 BSC		3.96 BSC	
K	0.315	0.355	8.00	8.50
L	1.00 BSC		25.40 BSC	
N	0.165 BSC		4.19 BSC	
P	0.100 BSC		2.54 BSC	
Q	0.148	0.168	3.76	4.27
R	----	0.600	----	15.24
S	1.500 BSC		38.10 BSC	
U	0.200 BSC		5.08 BSC	
V	----	0.250	----	6.35
W	0.435	0.450	11.05	11.43
X	0.400 BSC		10.16 BSC	
Y	0.152	0.163	3.85	4.15

STYLE 1:
 PIN 1: RF INPUT
 2: GROUND
 3: GROUND
 4: DELETED
 5: VDC
 6: DELETED
 7: GROUND
 8: GROUND
 9: RF OUTPUT

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