

CATV Amplifier Module

Features

- Specified for 77 - and 110-Channel Loading
- Lower DC Current Requirements
- Excellent Distortion Performance
- Excellent DC Current Stability over Temperature
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

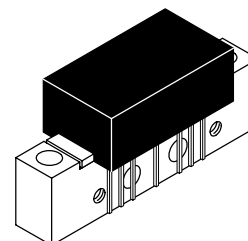
- CATV Systems Operating in the 40 to 750 MHz Frequency Range
- Output Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Amplifier Requiring Lower Power Dissipation While Maintaining Excellent Output Performance

Description

- 24 Vdc Supply, 40 to 750 MHz, CATV Forward Power Doubler Amplifier

MHW7205CL

**750 MHz
20 dB GAIN
110-CHANNEL
CATV AMPLIFIER**



CASE 714Y-04, STYLE 1

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	—	750	MHz
Power Gain 50 MHz 750 MHz	G_p	19 19.7	19.5 20	20 21.2	dB
Slope 40 - 750 MHz	S	0.2	0.5	1.7	dB
Gain Flatness (40 - 750 MHz, Peak to Valley)	G_F	—	0.3	0.8	dB
Return Loss — Input/Output ($Z_0 = 75$ Ohms) @ 40 MHz @ $f > 40$ MHz (Derate)	IRL/ORL	20 —	— —	— 0.007	dB dB/MHz
Composite Second Order ($V_{out} = +44$ dBmV/ch., Worst Case) 110-Channel FLAT 77-Channel FLAT	CSO_{110} CSO_{77}	— —	-69 -80	-63 -67	dBc
Cross Modulation Distortion @ Ch 2 ($V_{out} = +44$ dBmV/ch., FM = 55 MHz) 110-Channel FLAT 77-Channel FLAT	XMD_{110} XMD_{77}	— —	-65 -69	-62 -66	dBc

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

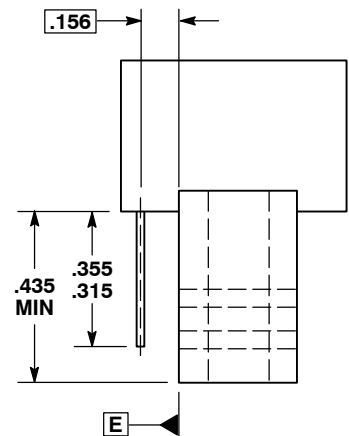
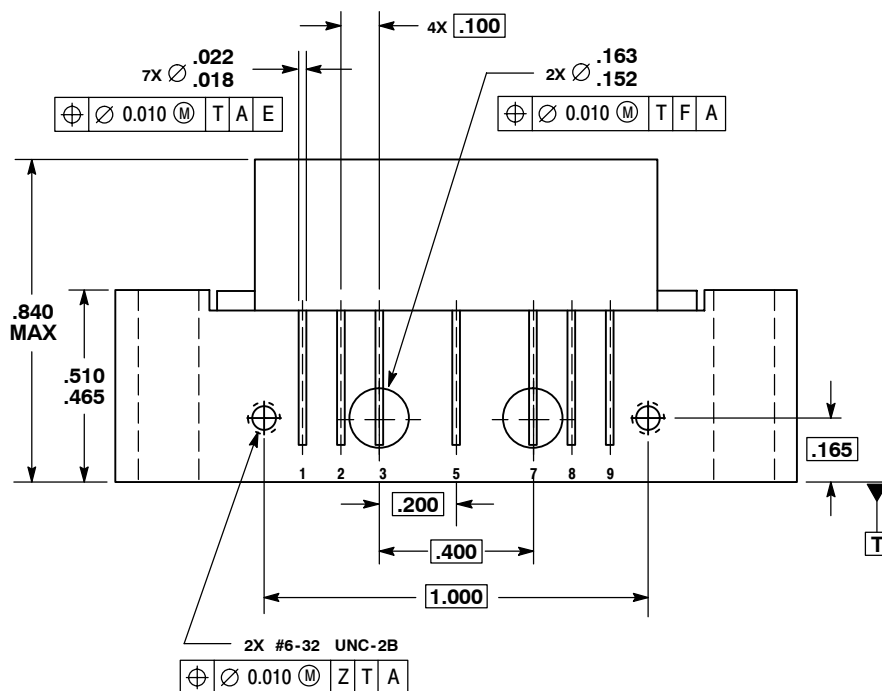
Characteristic		Symbol	Min	Typ	Max	Unit
Composite Triple Beat ($V_{out} = +44$ dBmV/ch., Worst Case)	110-Channel FLAT	CTB_{110}	—	-63	-61	dBc
	77-Channel FLAT	CTB_{77}	—	-70	-68	
Noise Figure	50 MHz	NF	—	5.0	6.2	dB
	550 MHz		—	5.8	—	
	750 MHz		—	6.2	7.5	
DC Current ($V_{DC} = 24$ V, $T_C = -20$ to $+100^\circ\text{C}$)		I_{DC}	345	365	385	mA

Technical drawing of a mechanical part with the following dimensions and features:

- Overall length: 1.775 MAX
- Distance from left face to center of first hole: 1.500
- Distance between centers of two holes: 1.085 MAX
- Overall width: .600 MAX
- Distance from top/bottom centerline to hole center: .250 MAX
- Distance from right face to center of second hole: .156
- Distance from right face to feature Z: .325
- Distance from right face to feature F: .300
- Two holes: 2X Ø .168 / .148
- Seven slots: C C C C C C C
- Feature control table:

⊕	Ø 0.010	M	T	F	A
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STYLE 1:
PIN 1. RF INPUT
2. GROUND
3. GROUND
4. DELETED
5. VDC
6. DELETED
7. GROUND
8. GROUND
9. RF OUTPUT



NOTES:
1. INTERPRET DIMENSIONS AND TOLERANCES
PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: INCH.

**CASE 714Y-04
ISSUE E**

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