

# 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

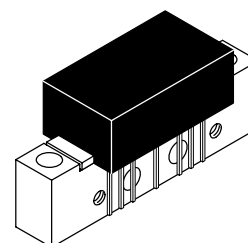
- CATV Systems Operating in the 40 to 750 MHz Frequency Range
- Output Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Amplifier Requiring Lower Power Dissipation While Maintaining Excellent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

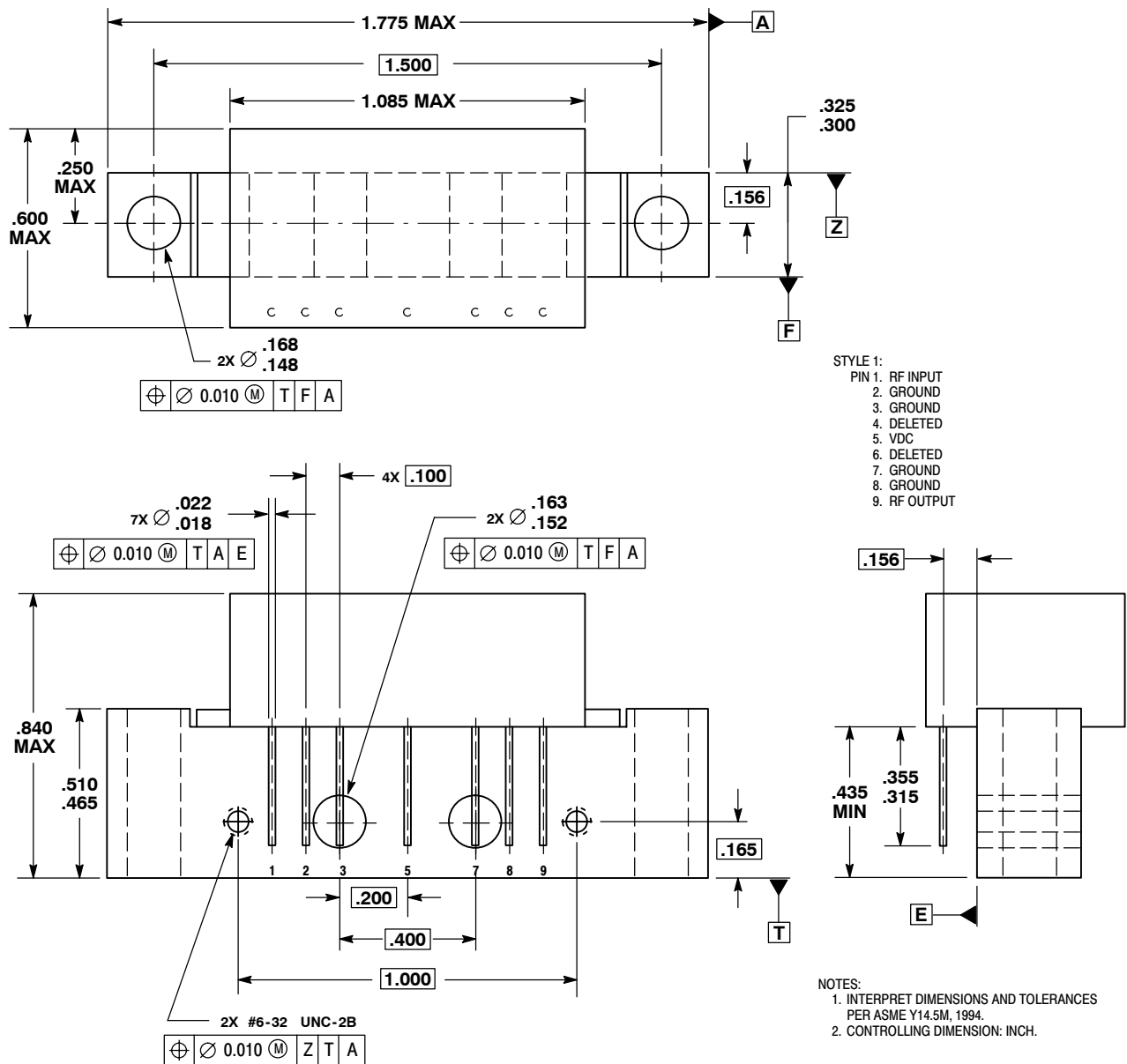
**Table 2. Electrical Characteristics** ( $V_{CC} = 24$  Vdc,  $T_C = +30^\circ\text{C}$ , 75  $\Omega$  system unless otherwise noted)

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  $\Omega$  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

# PACKAGE DIMENSIONS



CASE 714Y-04  
ISSUE E

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