

# The RF Line CATV Amplifier Module

**MHW7205CL**

## 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

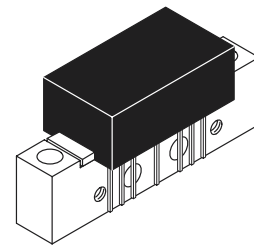
**750 MHz  
20 dB GAIN  
110–CHANNEL  
CATV AMPLIFIER**

## 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



**CASE 714Y–04, 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

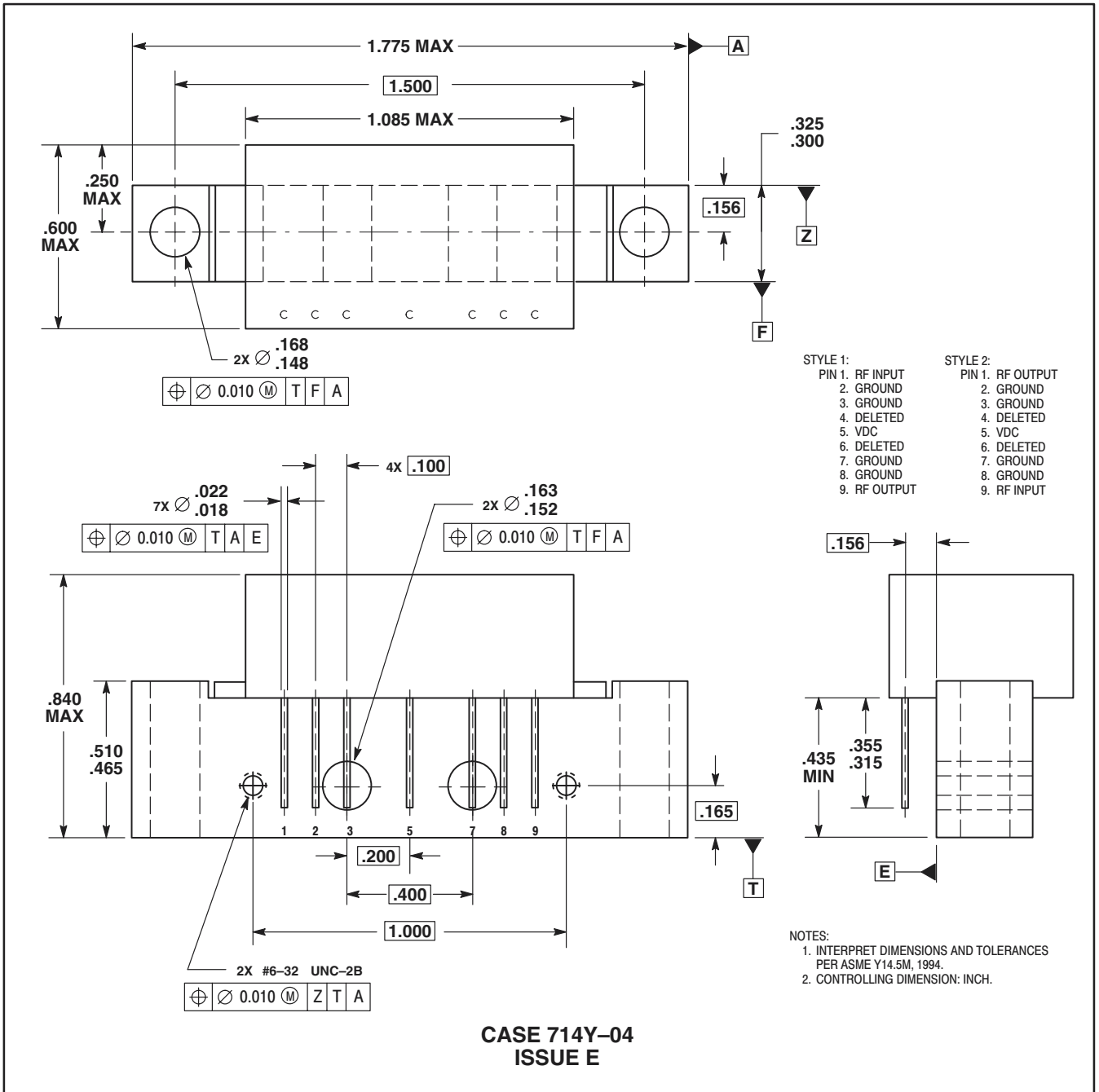
## ELECTRICAL CHARACTERISTICS ( $V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$ , 75 $\Omega$ system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	$G_p$	19	19.5	20	dB
		19.7	20	21.2	
Slope	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 ( $Z_o = 75$ Ohms)	IRL/ORL				
		20	—	—	dB
		—	—	0.007	dB/MHz
Composite Second Order ( $V_{out} = +44$ dBmV/ch., Worst Case)	$CSO_{110}$ $CSO_{77}$	—	–69	–63	dBc
		—	–80	–67	
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +44$ dBmV/ch., FM = 55 MHz)	$XMD_{110}$ $XMD_{77}$	—	–65	–62	dBc
		—	–69	–66	

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

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

# PACKAGE DIMENSIONS



**CASE 714Y-04  
ISSUE E**

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