

# The RF Line CATV Amplifier Module

**MHW7205CL**

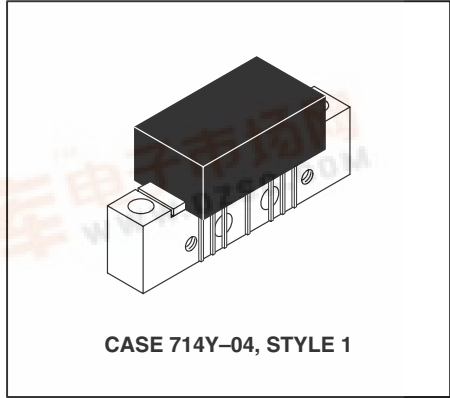
## Features

- 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

## 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

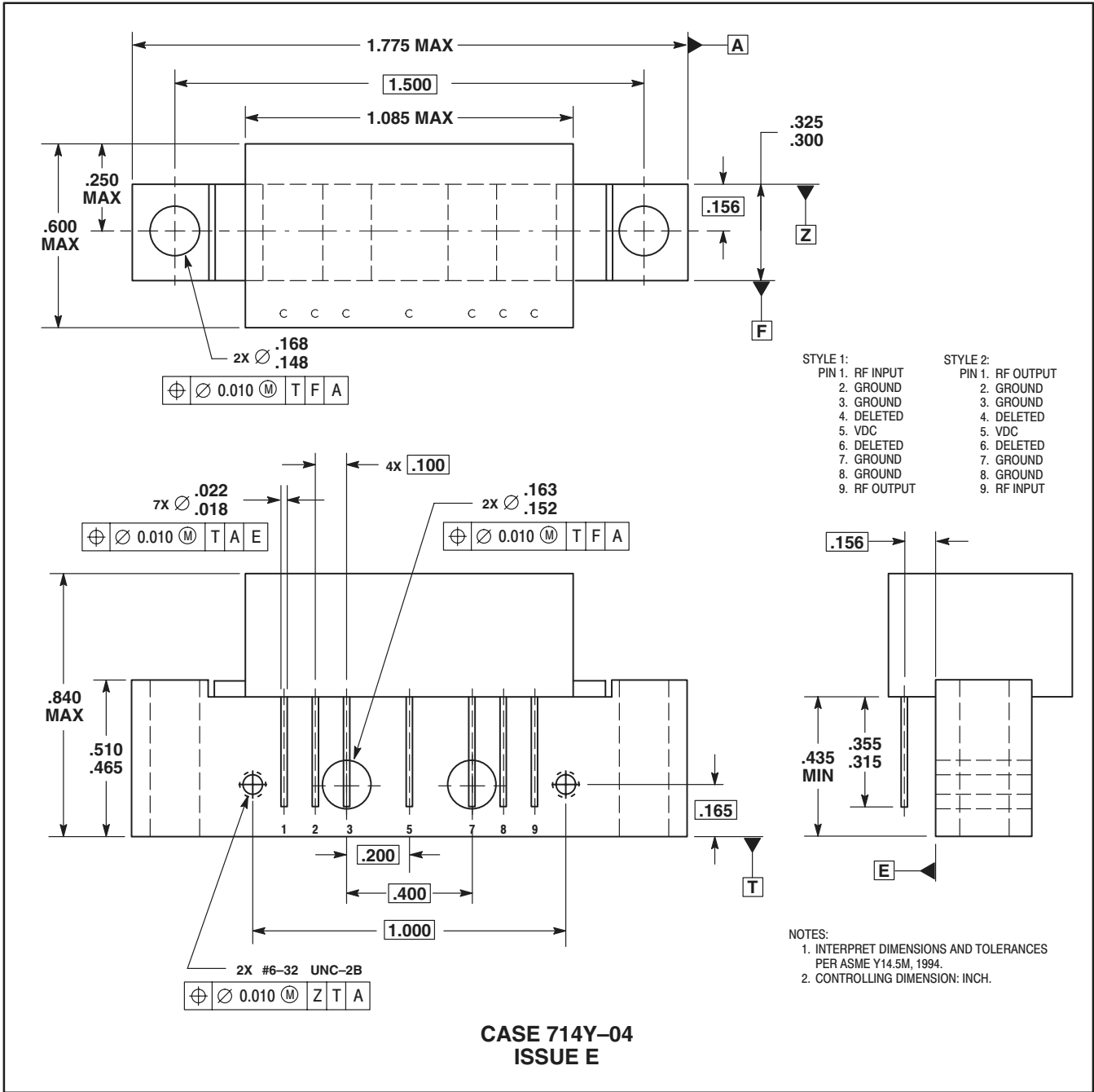
## ELECTRICAL CHARACTERISTICS ( $V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$ , 75 $\Omega$ system unless otherwise noted)

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 ( $Z_0 = 75$ Ohms)	IRL/ORL				
@ 40 MHz		20	—	—	dB
@ $f > 40$ MHz (Derate)		—	—	0.007	dB/MHz
Composite Second Order					dBc
( $V_{out} = +44$ dBmV/ch., Worst Case)					
110-Channel FLAT	$CSO_{110}$	—	-69	-63	
77-Channel FLAT	$CSO_{77}$	—	-80	-67	
Cross Modulation Distortion @ Ch 2					dBc
( $V_{out} = +44$ dBmV/ch., FM = 55 MHz)					
110-Channel FLAT	$XMD_{110}$	—	-65	-62	
77-Channel FLAT	$XMD_{77}$	—	-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	$CTB_{110}$	—	-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 ( $V_{DC} = 24 \text{ V}$ , $T_C = -20 \text{ to } +100^\circ\text{C}$ )		$I_{DC}$	345	365	385	mA

# PACKAGE DIMENSIONS



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