

## The RF Line CATV Amplifier Module

### Features

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

### Applications

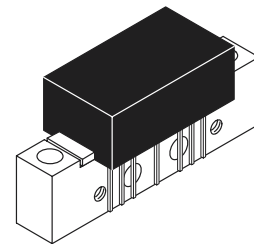
- CATV Systems Operating in the 40 to 750 MHz Frequency Range
- Output Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications

### Description

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

**MHW7205C**

**750 MHz  
20.2 dB GAIN  
110-CHANNEL  
CATV 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

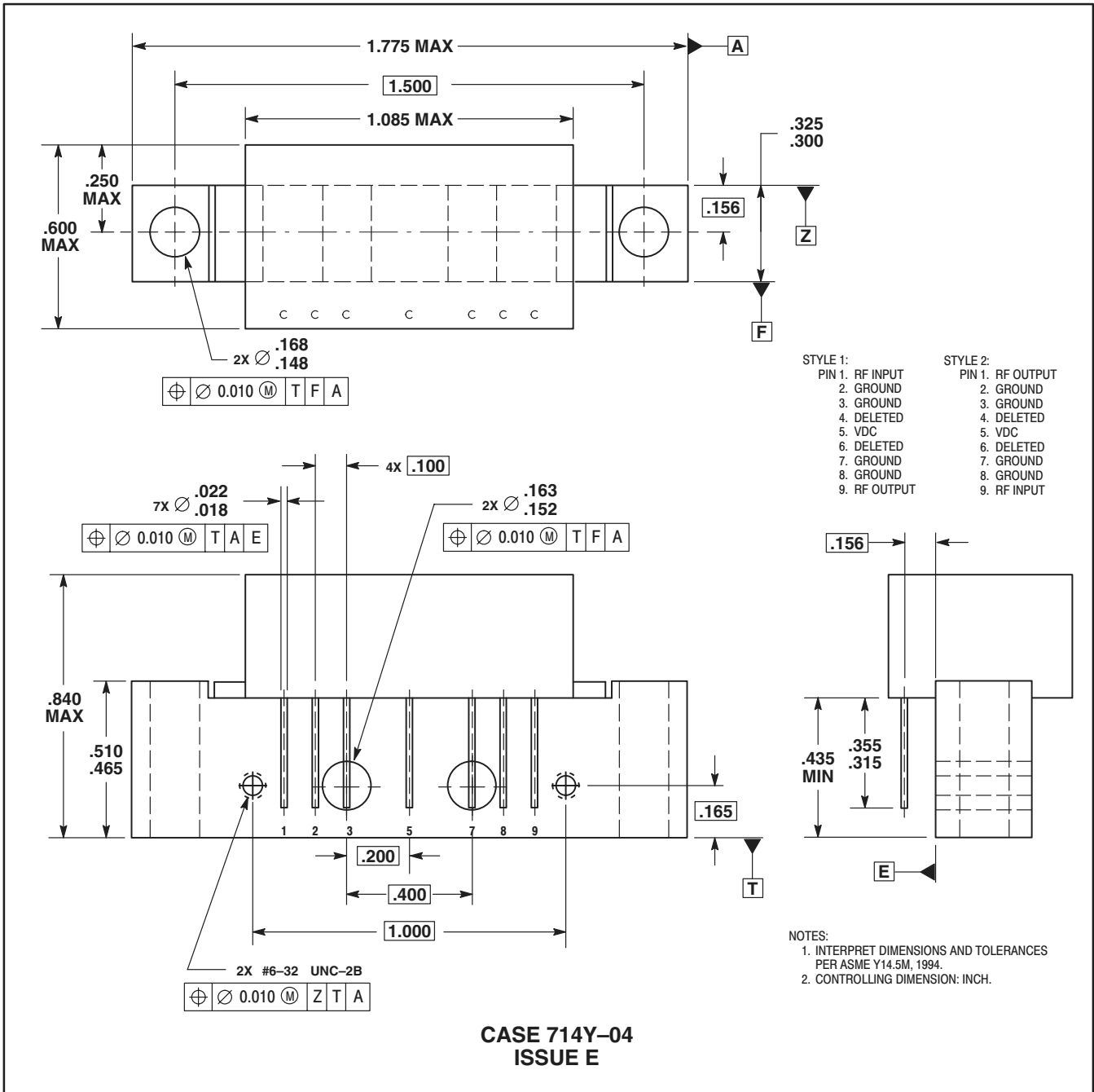
### ELECTRICAL CHARACTERISTICS ( $V_{CC} = 24$ Vdc, $T_C = +30$ °C, 75 $\Omega$ system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	$G_p$	19.3	19.8	20.3	dB
		20	20.2	21	
Slope	S	0	0.4	1.0	dB
Gain Flatness (40-750 MHz, Peak to Valley)	$G_F$	—	0.3	0.6	dB
Return Loss — Input/Output ( $Z_0 = 75$ Ohms)	IRL/ORL				
		19	—	—	dB
		—	—	0.006	dB/MHz
Composite Second Order ( $V_{out} = +44$ dBmV/ch., Worst Case)	$CSO_{110}$ $CSO_{77}$	—	-70	-63	dBc
		—	-80	-68	
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +44$ dBmV/ch., FM = 55 MHz)	$XMD_{110}$ $XMD_{77}$	—	-67	-62	dBc
		—	-70	-68	

**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 ( $V_{\text{out}} = +44 \text{ dBmV/ch.}$ , Worst Case)	110-Channel FLAT	$CTB_{110}$	—	-63	-61	dBc
	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	7.5	
DC Current ( $V_{DC} = 24 \text{ V}$ , $T_C = 30^\circ\text{C}$ )		$I_{DC}$	365	400	435	mA

# PACKAGE DIMENSIONS



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