

## The RF Line CATV Amplifier Module

**MHW7185CL**

### 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

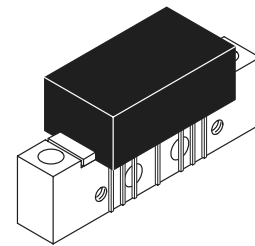
**750 MHz  
19.2 dB GAIN  
110–CHANNEL  
CATV AMPLIFIER**

### 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

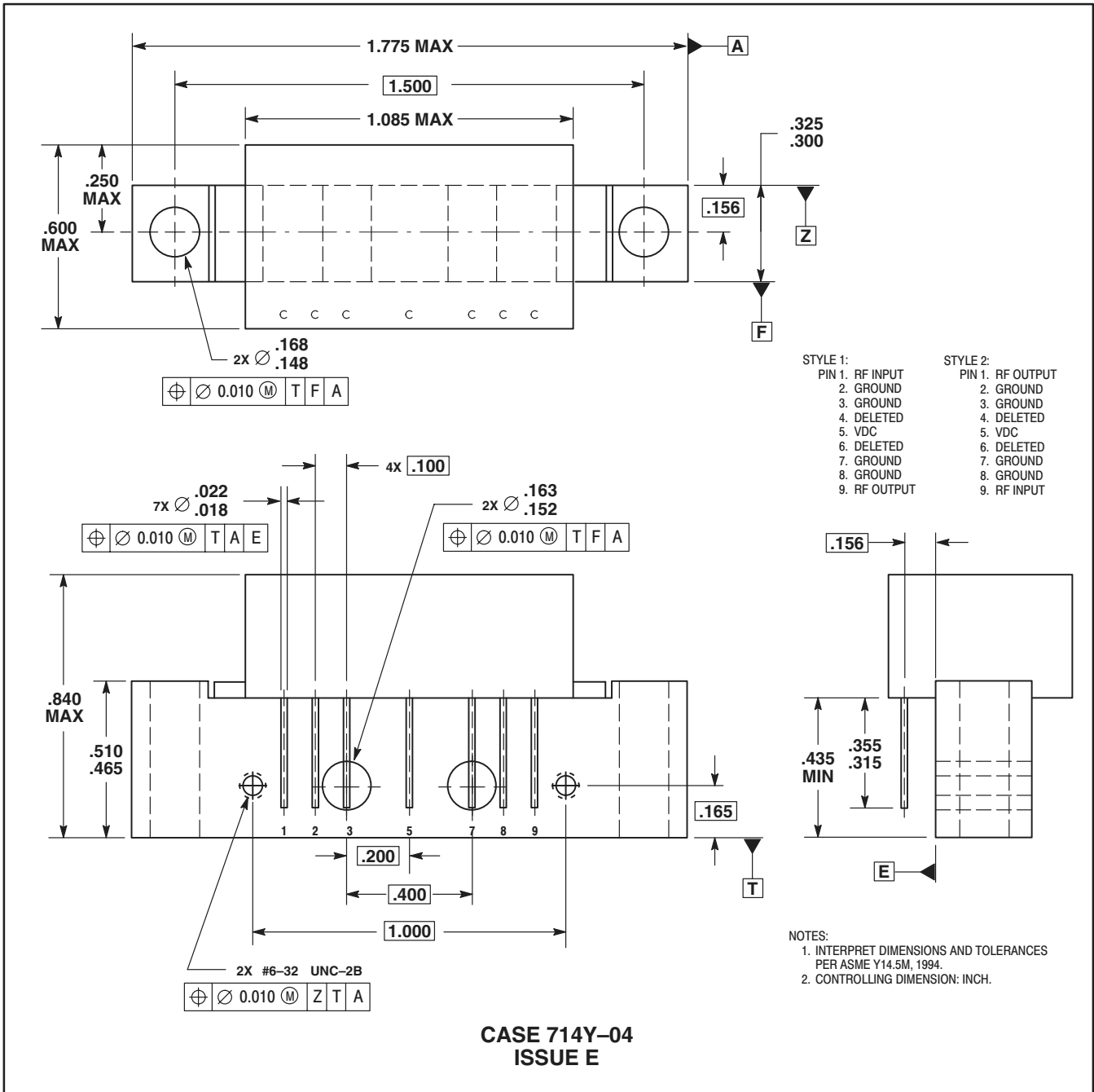
### ELECTRICAL CHARACTERISTICS ( $V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$ , 75 $\Omega$ system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	$G_p$	18	18.5	19	dB
		18.7	19.2	19.7	
Slope	S	0.3	0.6	1.3	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				
@ 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	$CSO_{110}$	—	–70	–64	
77–Channel FLAT	$CSO_{77}$	—	–83	–68	
Cross Modulation Distortion @ Ch 2					dBc
( $V_{out} = +44$ dBmV/ch., FM = 55 MHz)					
110–Channel FLAT	$XMD_{110}$	—	–66	–63	
77–Channel FLAT	$XMD_{77}$	—	–69	–67	

**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>	—	-63.5	-61	dBc
	77-Channel FLAT CTB <sub>77</sub>	—	-70	-68	
Noise Figure	50 MHz	—	5.3	6.2	dB
	550 MHz	—	5.8	—	
	750 MHz	—	6.5	7.5	
DC Current ( $V_{DC} = 24 \text{ V}$ , $T_C = -20 \text{ to } +100^\circ\text{C}$ )	$I_{DC}$	345	370	385	mA

# PACKAGE DIMENSIONS



**CASE 714Y-04  
ISSUE E**

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