



**THE DATASHEET OF  
MHW7185CN**



# CATV Amplifier Module

## Features

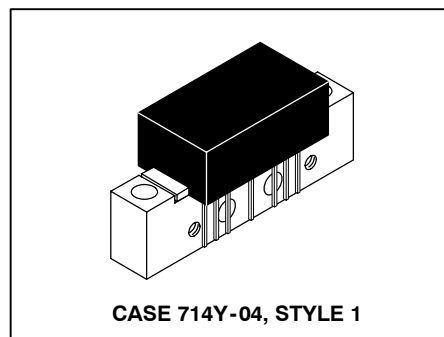
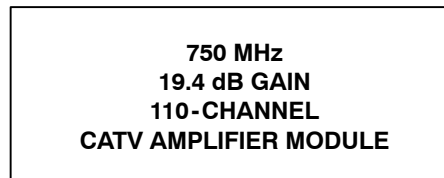
- Specified for 77- and 110-Channel Loading
- Excellent Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

## 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 Module
- Replaced MHW7185C. There are no form, fit or function changes with this part replacement.
- RoHS Compliant



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**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

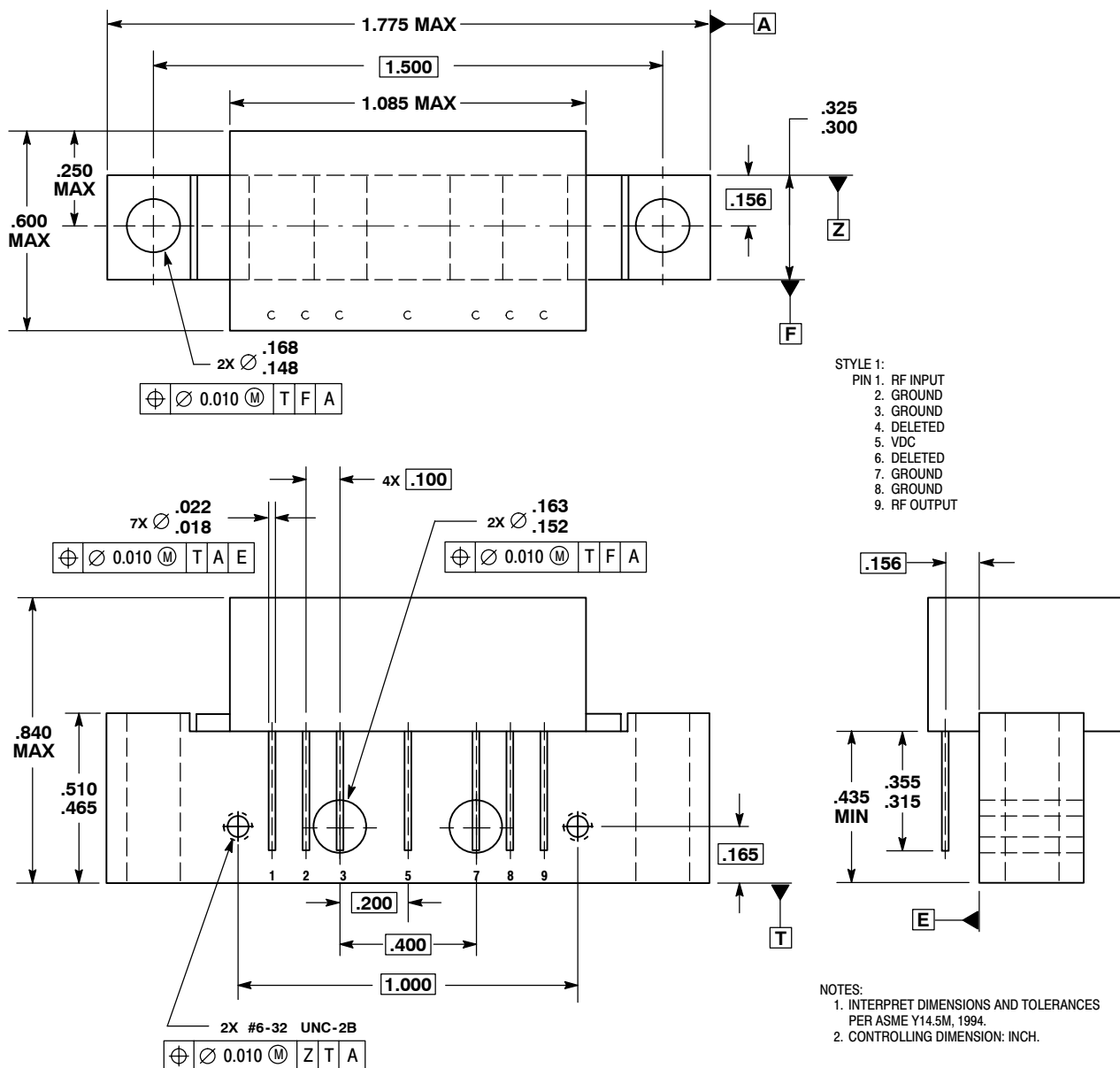
**Table 2. Electrical Characteristics** ( $V_{CC} = 24$  Vdc,  $T_C = +30^\circ\text{C}$ , 75  $\Omega$  system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	$G_p$	50 MHz 18.3	18.8	19.3	dB
		750 MHz 19	19.4	20	
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 ( $Z_o = 75$ Ohms)	IRL/ORL				
@ 40 MHz		19	—	—	dB
@ $f > 40$ MHz (Derate)		—	—	0.006	dB/MHz
Composite Second Order	$CSO_{110}$ $CSO_{77}$				dBc
( $V_{out} = +44$ dBmV/ch., Worst Case)		110-Channel FLAT 77-Channel FLAT	— —	-72 -80	
Cross Modulation Distortion @ Ch 2	$XMD_{110}$ $XMD_{77}$				dBc
( $V_{out} = +44$ dBmV/ch., FM = 55 MHz)		110-Channel FLAT 77-Channel FLAT	— —	-66 -70	

**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	$CTB_{110}$	—	-64	-62	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 ( $V_{DC} = 24$ V, $T_C = 30^\circ\text{C}$ )		$I_{DC}$	365	400	435	mA

### PACKAGE DIMENSIONS



CASE 714Y-04  
ISSUE H

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