

# CATV Amplifier Module

## Features

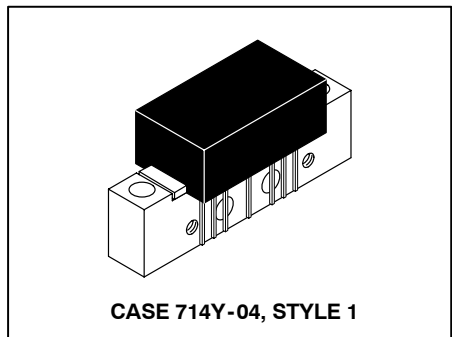
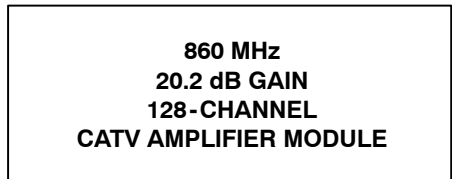
- Specified for 77-, 110- and 128-Channel Loading
- Excellent Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

## Applications

- CATV Systems Operating in the 40 to 860 MHz Frequency Range
- Output Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems

## Description

- 24 Vdc Supply, 40 to 860 MHz, CATV Forward Power Doubler Amplifier Module



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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	—	860	MHz
Power Gain	$G_p$	19.3	19.8	20.3	dB
		20	20.2	21.5	
Slope	S	0	.4	1.5	dB
Gain Flatness (40 - 860 MHz, Peak to Valley)	$G_F$	—	0.3	1.0	dB
Return Loss — Input/Output ( $Z_o = 75$ Ohms)	IRL/ORL	19	—	—	dB
		—	—	0.006	dB/MHz
Composite Second Order					dBc
( $V_{out} = +40$ dBmV/ch., Worst Case)	CSO <sub>128</sub>	—	-69	-60	
( $V_{out} = +44$ dBmV/ch., Worst Case)	CSO <sub>110</sub>	—	-70	-63	
	CSO <sub>77</sub>	—	-80	-68	

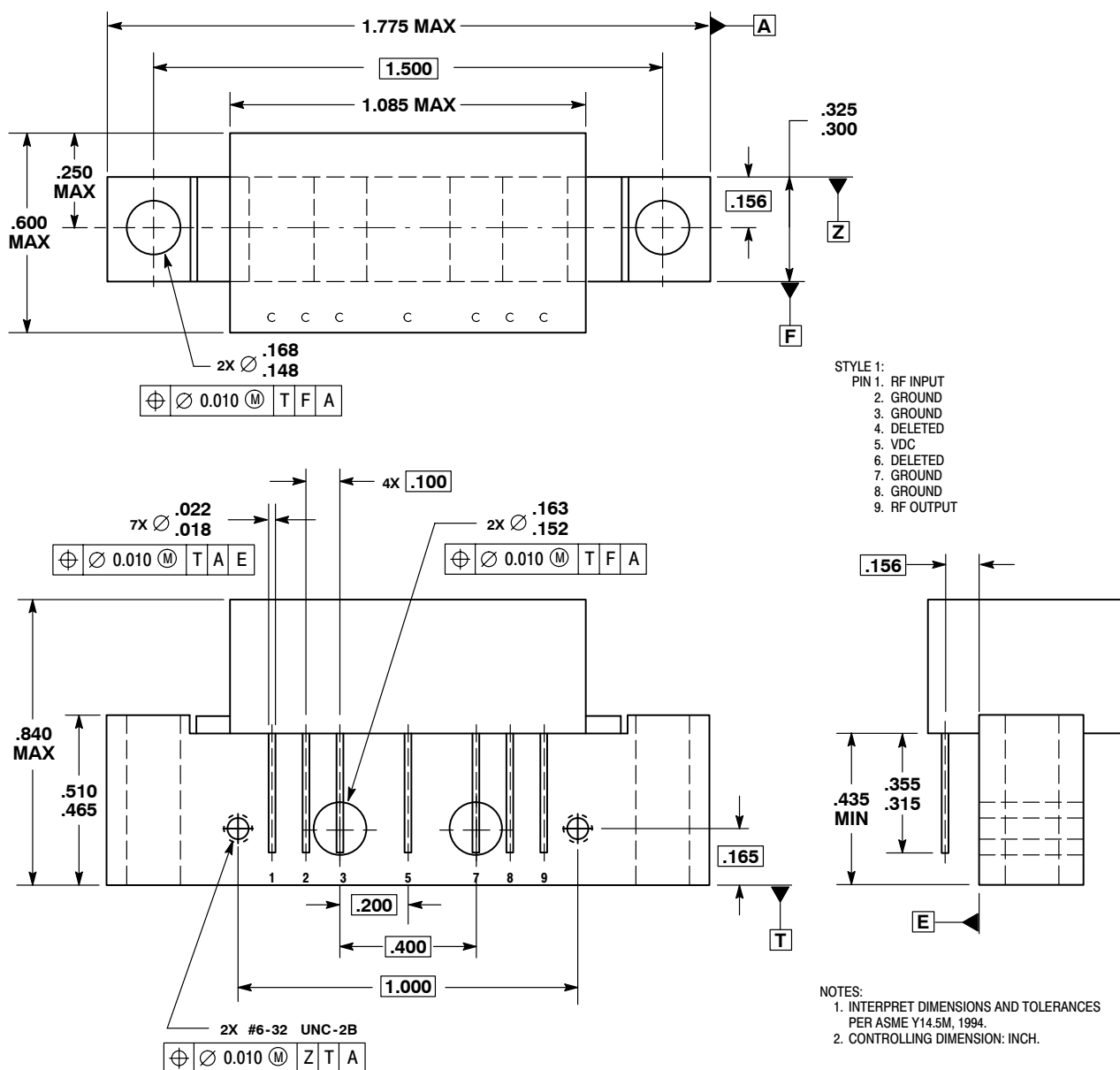
**Table 2. Electrical Characteristics** ( $V_{CC} = 24 \text{ Vdc}$ ,  $T_C = +30^\circ\text{C}$ ,  $75 \Omega$  system unless otherwise noted) (continued)

Characteristic		Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +40 \text{ dBmV/ch.}$ , FM = 55 MHz)	128-Channel FLAT	$XMD_{128}$	—	-72	-64	dBc
	110-Channel FLAT	$XMD_{110}$	—	-67	-62	
	77-Channel FLAT	$XMD_{77}$	—	-71	-68	
Composite Triple Beat ( $V_{out} = +40 \text{ dBmV/ch.}$ , Worst Case)	128-Channel FLAT	$CTB_{128}$	—	-66	-63	dBc
	110-Channel FLAT	$CTB_{110}$	—	-63	-61	
	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	—	
	860 MHz		—	7.0	8.0	
DC Current ( $V_{DC} = 24 \text{ V}$ , $T_C = 30^\circ\text{C}$ )		$I_{DC}$	365	400	435	mA

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### PACKAGE DIMENSIONS



**CASE 714Y-04  
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