

The RF Line CATV Amplifier Module

Features

- Specified for 77-, 110- and 128-Channel Loading
- Excellent Distortion Performance
- Superior Gain, Return Loss and DC Current Stability over Temperature
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

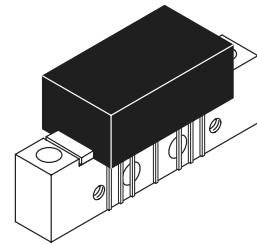
- CATV Systems Operating in the 40 to 860 MHz Frequency Range
- Input Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Output Stage Amplifier on Applications Requiring Low Power Dissipation

Description

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

MHW8182B

**860 MHz
19.1 dB GAIN
128-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

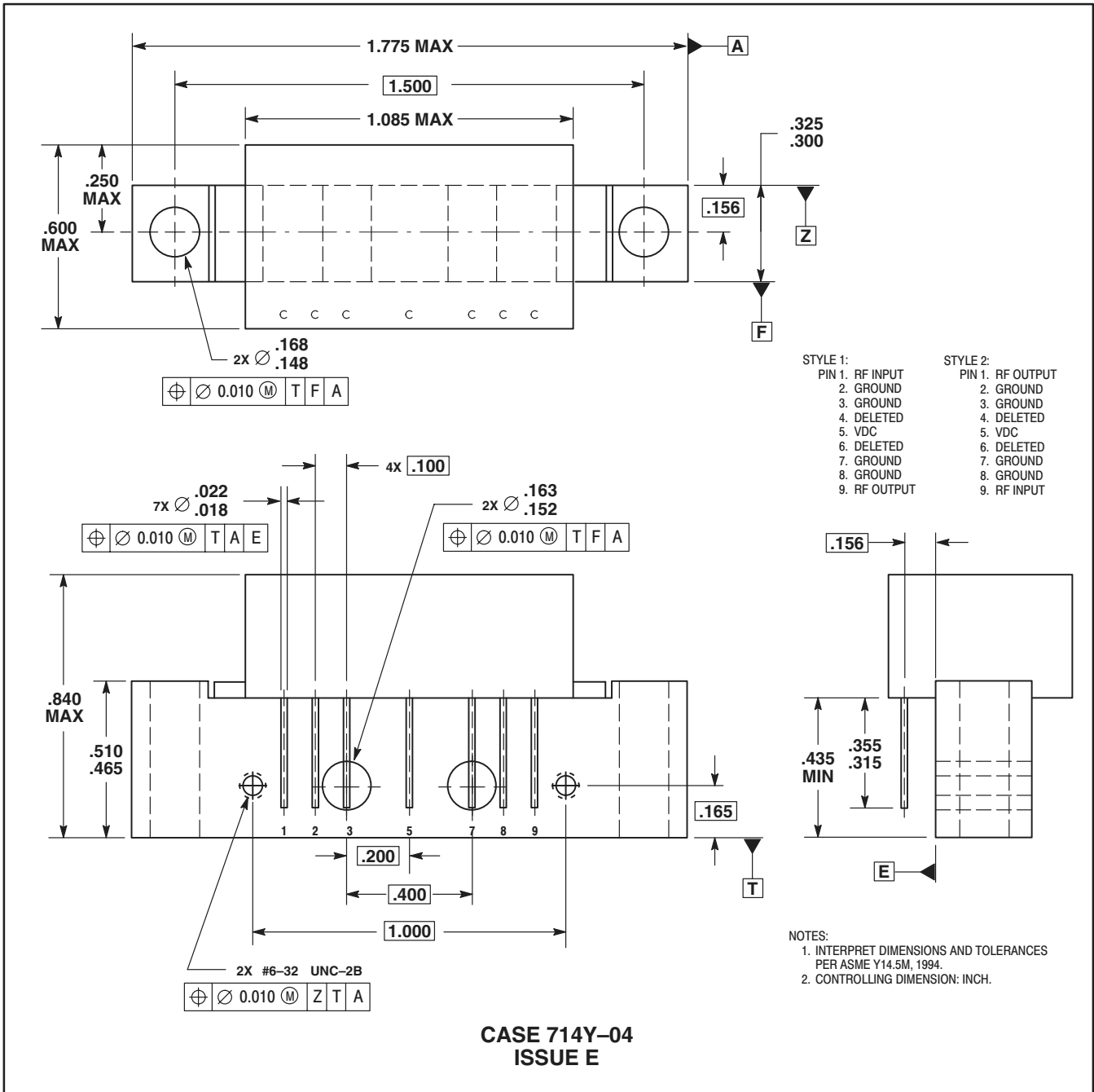
ELECTRICAL CHARACTERISTICS ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit			
Frequency Range	BW	40	—	860	MHz			
Power Gain	G_p	50 MHz 18	18.5	19	dB			
		860 MHz 18.2	19.1	20.5				
Slope	S	0	0.7	2.5	dB			
Gain Flatness (40–860 MHz, Peak to Valley)	G_F	—	0.3	0.6	dB			
Return Loss — Input/Output ($Z_o = 75$ Ohms)	IRL/ORL	20	—	—	dB			
@ 40 MHz						—	0.005	dB/MHz
@ $f > 40$ MHz (Derate)						—	—	
Composite Second Order	CSO_{128} CSO_{110} CSO_{77}	—	-71	-64	dBc			
($V_{out} = +38$ dBmV/ch., Worst Case)						128-Channel FLAT	-70	-63
($V_{out} = +40$ dBmV/ch., Worst Case)						110-Channel FLAT	-70	-64
($V_{out} = +44$ dBmV/ch., Worst Case)	77-Channel FLAT	—	—	—				

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

Characteristic		Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion @ Ch 2 ($V_{out} = +38$ dBmV/ch., FM = 55 MHz)	128–Channel FLAT	XMD_{128}	—	–68	–65	dBc
	($V_{out} = +40$ dBmV/ch., FM = 55 MHz)	XMD_{110}	—	–66	–64	
	($V_{out} = +44$ dBmV/ch., FM = 55 MHz)	XMD_{77}	—	–61	–59	
Composite Triple Beat ($V_{out} = +38$ dBmV/ch., Worst Case)	128–Channel FLAT	CTB_{128}	—	–69	–66	dBc
	($V_{out} = +40$ dBmV/ch., Worst Case)	CTB_{110}	—	–68	–66	
	($V_{out} = +44$ dBmV/ch., Worst Case)	CTB_{77}	—	–66	–64	
Noise Figure	50 MHz	NF	—	4.0	5.0	dB
	550 MHz		—	4.5	—	
	750 MHz		—	5.0	6.5	
	860 MHz		—	5.5	7.5	
DC Current ($V_{DC} = 24$ V, $T_C = 30^\circ\text{C}$)		I_{DC}	180	220	240	mA

PACKAGE DIMENSIONS



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