

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

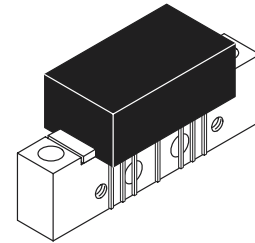
**750 MHz
 19.2 dB GAIN
 110–CHANNEL
 CATV AMPLIFIER**

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 Ω 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	

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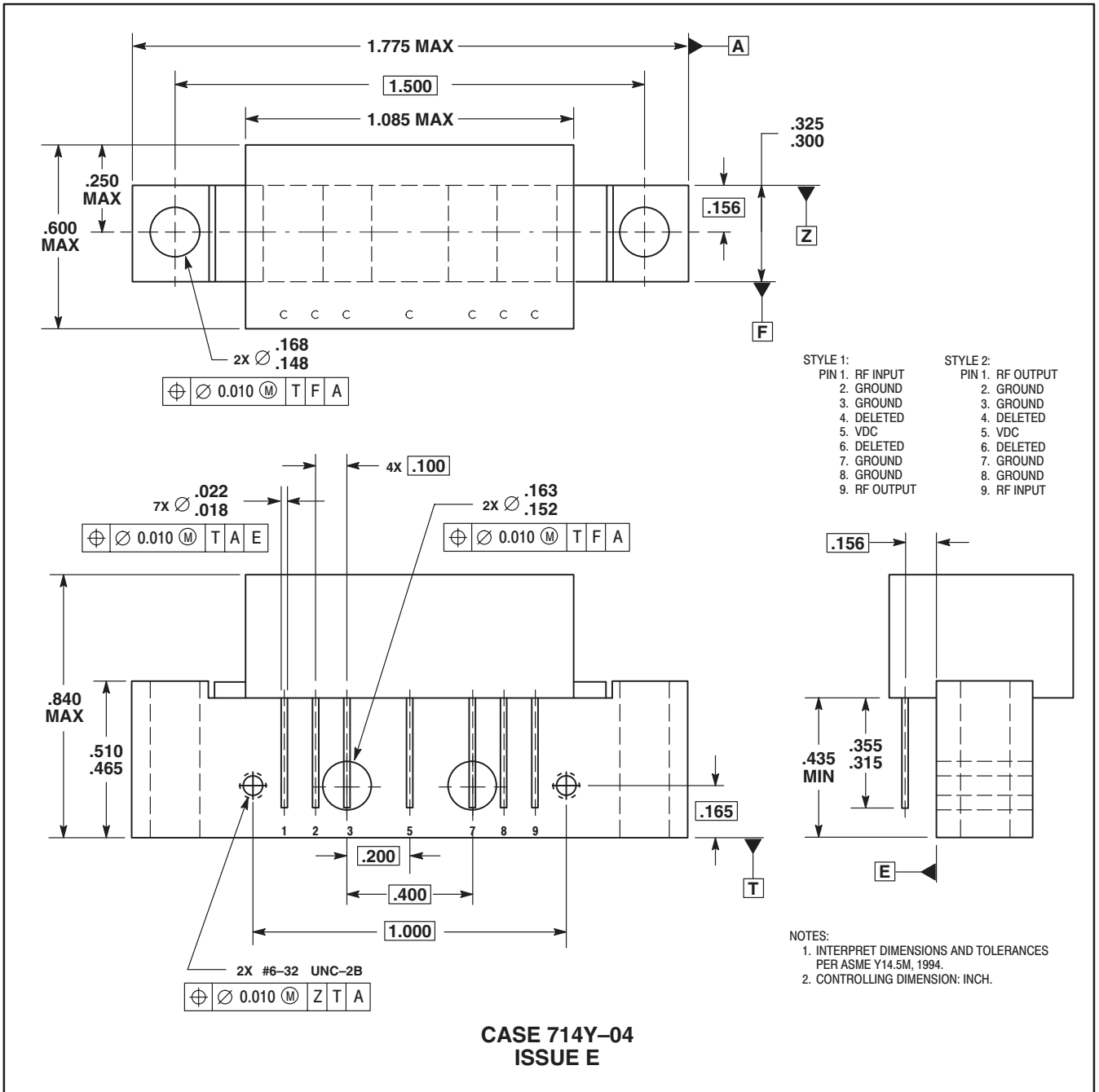
ELECTRICAL CHARACTERISTICS — continued ($V_{CC} = 24 \text{ Vdc}$, $T_C = +30^\circ\text{C}$, 75Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Composite Triple Beat ($V_{out} = +44 \text{ dBmV/ch.}$, Worst Case)	110-Channel FLAT	—	-63.5	-61	dBc
	77-Channel FLAT	—	-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

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PACKAGE DIMENSIONS



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