

The RF Line CATV Amplifier Module

Features

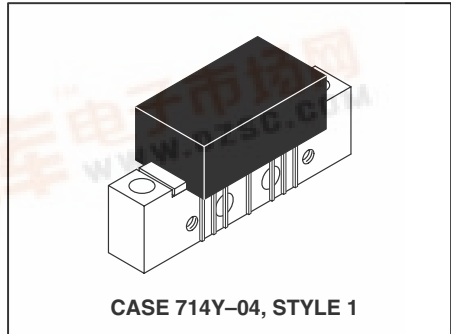
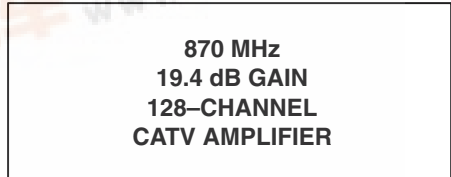
- Specified for 77-, 110- and 128-Channel Loading
- Lower DC Current Requirements
- Excellent Distortion Performance
- Excellent DC Current Stability over Temperature
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

- CATV Systems Operating in the 40 to 870 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
- Amplifiers Requiring Lower Power Dissipation While Maintaining Excellent Output Performance

Description

- 24 Vdc Supply, 40 to 870 MHz, CATV Forward Power Doubler Amplifier



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

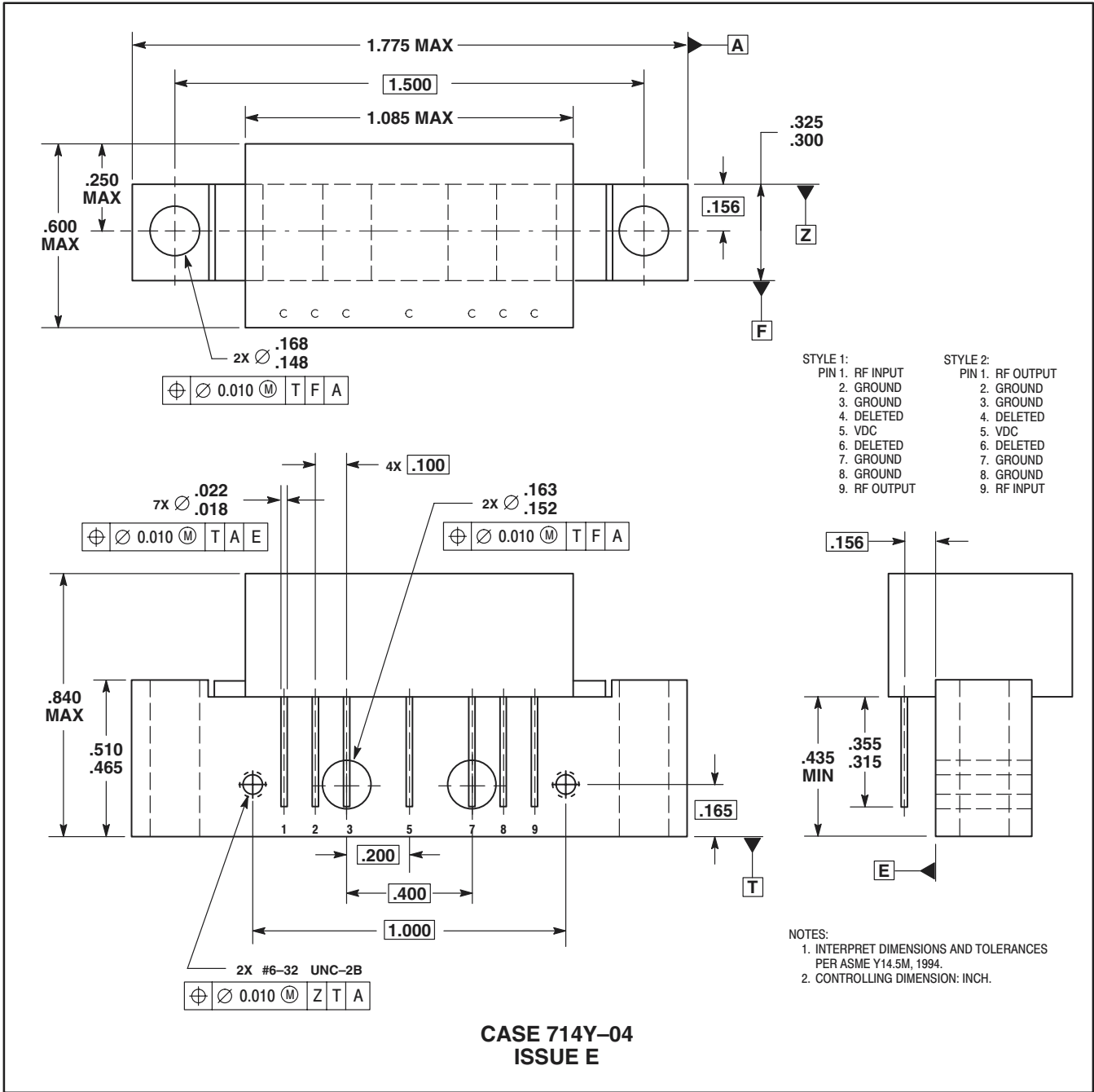
ELECTRICAL CHARACTERISTICS ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	870	MHz
Power Gain	G_p	50 MHz	18	19	dB
		870 MHz	19	20.5	
Slope	S	0.4	0.9	1.4	dB
Gain Flatness (40–870 MHz, Peak-to-Valley)	G_F	—	0.3	0.8	dB
Return Loss — Input/Output ($Z_0 = 75$ Ohms)	IRL/ORL	@ 40 MHz	20	—	dB
		@ $f > 40$ MHz (Derate)	—	0.007	
Composite Second Order ($V_{out} = +40$ dBmV/ch., Worst Case)	CSO_{128}	128-Channel FLAT	—	-69	dBc
		110-Channel FLAT	—	-70	
		77-Channel FLAT	—	-85	

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						dBc
($V_{out} = +40$ dBmV/ch., FM = 55 MHz)	128-Channel FLAT	XMD_{128}	—	-72	-64	
($V_{out} = +44$ dBmV/ch., FM = 55 MHz)	110-Channel FLAT	XMD_{110}	—	-66	-63	
($V_{out} = +44$ dBmV/ch., FM = 55 MHz)	77-Channel FLAT	XMD_{77}	—	-69	-67	
Composite Triple Beat						dBc
($V_{out} = +40$ dBmV/ch., Worst Case)	128-Channel FLAT	CTB_{128}	—	-66	-63	
($V_{out} = +44$ dBmV/ch., Worst Case)	110-Channel FLAT	CTB_{110}	—	-63	-61	
($V_{out} = +44$ dBmV/ch., Worst Case)	77-Channel FLAT	CTB_{77}	—	-70	-68	
Noise Figure	50 MHz	NF	—	5.3	6.2	dB
	550 MHz		—	5.8	—	
	750 MHz		—	6.6	—	
	870 MHz		—	7.8	8.5	
DC Current ($V_{DC} = 24$ V, $T_C = -20$ to $+100^\circ\text{C}$)		I_{DC}	345	365	385	mA

PACKAGE DIMENSIONS



CASE 714Y-04
ISSUE E

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