

CATV Amplifier Module

Features

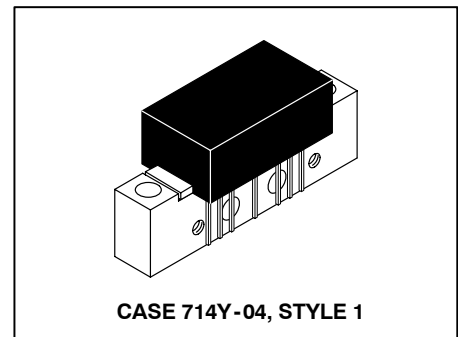
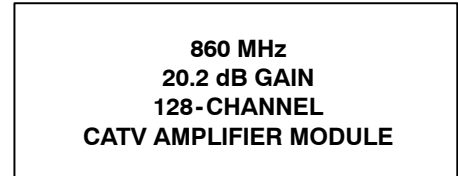
- Specified for 77-, 110- and 128-Channel Loading
- Excellent Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

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

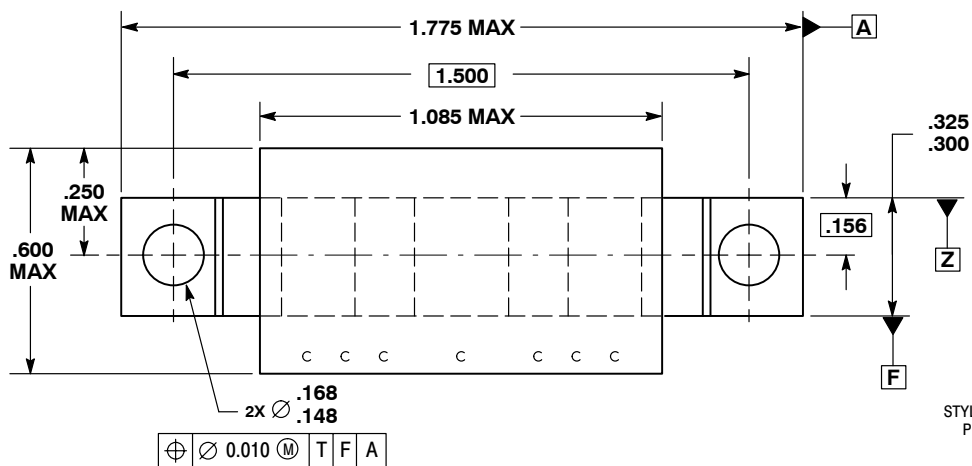
Table 2. Electrical Characteristics ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

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				
@ 40 MHz		19	—	—	dB
@ $f > 40$ MHz (Derate)		—	—	0.006	dB/MHz
Composite Second Order					dBc
($V_{out} = +40$ dBmV/ch., Worst Case)	CSO_{128}	—	-69	-60	
($V_{out} = +44$ dBmV/ch., Worst Case)	CSO_{110}	—	-70	-63	
	CSO_{77}	—	-80	-68	

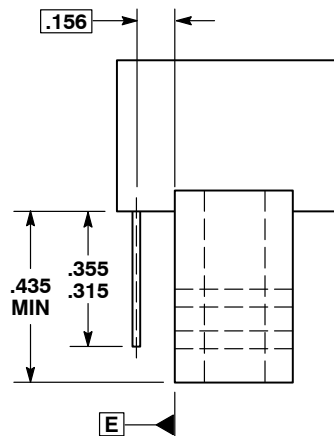
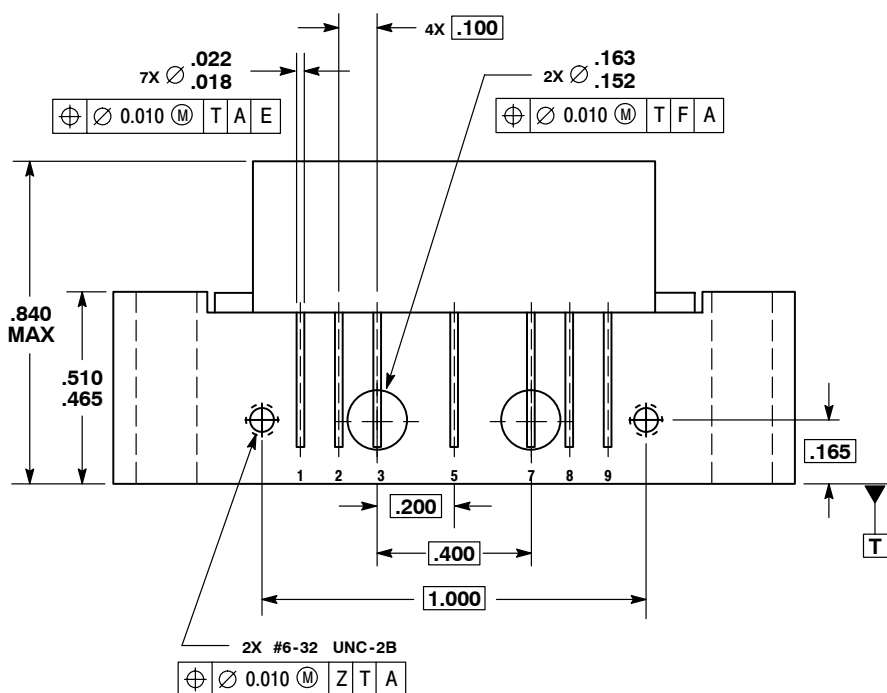
Table 2. Electrical Characteristics ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, $75\ \Omega$ system unless otherwise noted) (continued)

Characteristic		Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion @ Ch 2 ($V_{out} = +40$ dBmV/ch., FM = 55 MHz) ($V_{out} = +44$ 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 ($V_{out} = +40$ dBmV/ch., Worst Case) ($V_{out} = +44$ 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 ($V_{DC} = 24$ V, $T_C = 30^\circ\text{C}$)		I_{DC}	365	400	435	mA

PACKAGE DIMENSIONS



STYLE 1:
 PIN 1. RF INPUT
 2. GROUND
 3. GROUND
 4. DELETED
 5. VDC
 6. DELETED
 7. GROUND
 8. GROUND
 9. RF OUTPUT



NOTES:
 1. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 1994.
 2. CONTROLLING DIMENSION: INCH.

CASE 714Y-04
 ISSUE E

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