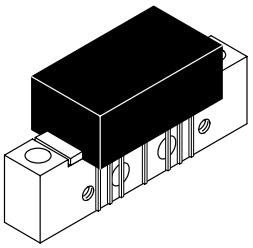
Will be replaced by MHW8185N by end of Q206. N suffix indicates RoHS compliant part.

CATV Amplifier Module

MHW8185

860 MHz
19.4 dB GAIN
128–CHANNEL
CATV AMPLIFIER MODULE



CASE 714Y–04, STYLE 1

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
- Driver Amplifier in Linear General Purpose Applications

Description

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

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°C, 75 Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	40	—	860	MHz
Power Gain	50 MHz 860 MHz	G_p	18.3 19	18.8 19.4	19.3 20.5	dB
Slope	40–860 MHz	S	0	.5	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) @ 40 MHz @ f > 40 MHz (Derate)		IRL/ORL	 19 —	 — —	 — 0.006	 dB dB/MHz
Composite Second Order (V_{out} = +40 dBmV/ch., Worst Case) (V_{out} = +44 dBmV/ch., Worst Case)	 128–Channel FLAT 110–Channel FLAT 77–Channel FLAT	 CSO_{128} CSO_{110} CSO_{77}	 — — —	 –70 –72 –80	 –62 –64 –68	dBc
Cross Modulation Distortion @ Ch 2 (V_{out} = +40 dBmV/ch., FM = 55 MHz) (V_{out} = +44 dBmV/ch., FM = 55 MHz)	 128–Channel FLAT 110–Channel FLAT 77–Channel FLAT	 XMD_{128} XMD_{110} XMD_{77}	 — — —	 –72 –67 –70	 –64 –63 –68	dBc

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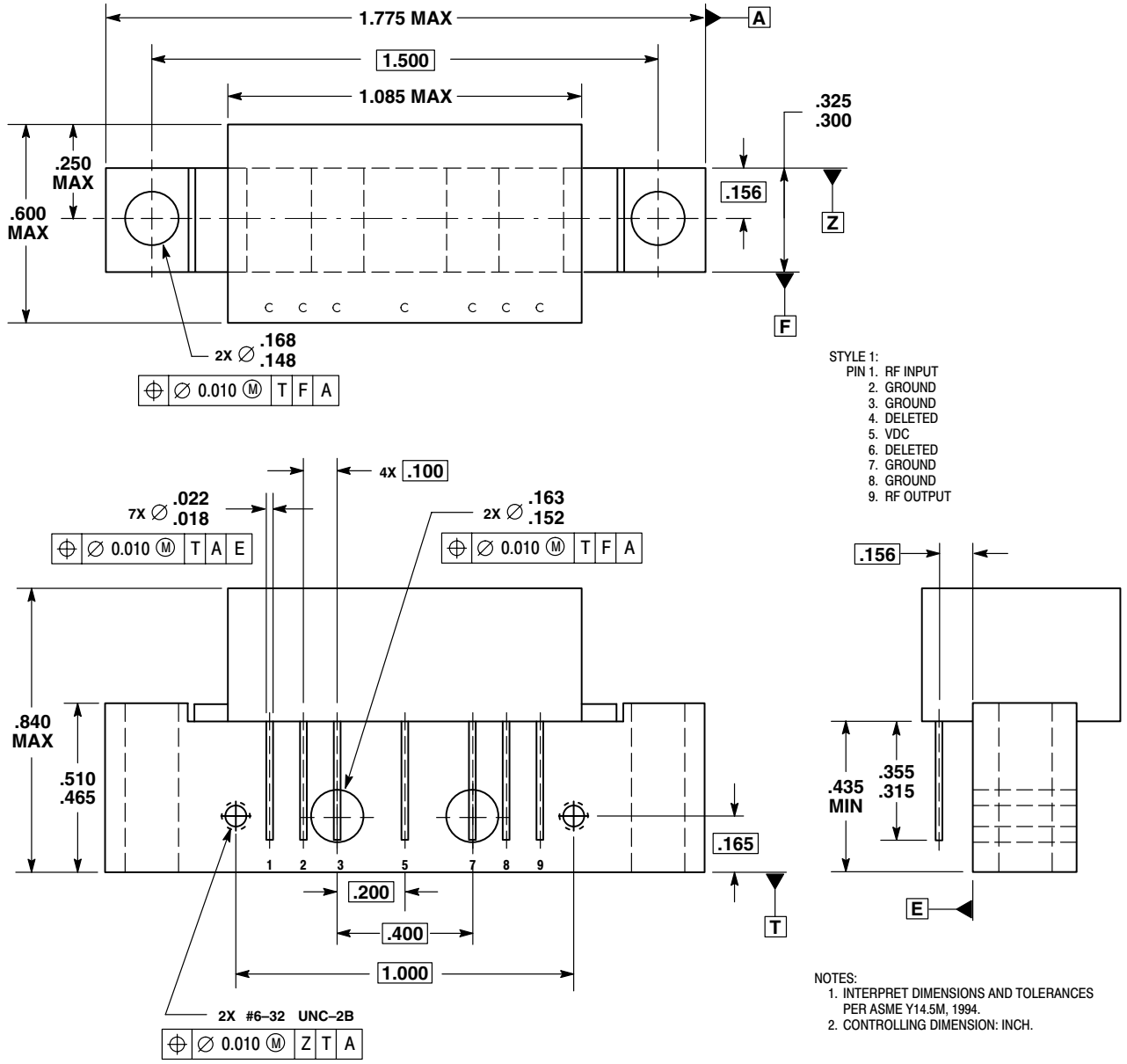
Table 2. Electrical Characteristics (V_{CC} = 24 Vdc, T_C = +30°C, 75 Ω system unless otherwise noted) **(continued)**

Characteristic		Symbol	Min	Typ	Max	Unit
Composite Triple Beat						dBc
(V_{out} = +40 dBmV/ch., Worst Case)	128–Channel FLAT	CTB_{128}	—	–67	–64	
(V_{out} = +44 dBmV/ch., Worst Case)	110–Channel FLAT	CTB_{110}	—	–64	–62	
	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°C)		I_{DC}	365	400	435	mA

PACKAGE DIMENSIONS



CASE 714Y–04
ISSUE E

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MHW8185
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