The RF Line
CATV Amplifier Module

MHW8272A

870 MHz
27.7 dB GAIN
128–CHANNEL
CATV AMPLIFIER MODULE

Features

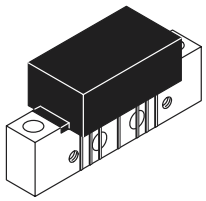
- Specified for 128–Channel Loading
- Excellent Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

- CATV Systems Operating in the 40 to 870 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 870 MHz, CATV Forward Amplifier Module



CASE 1302–01, STYLE 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+55	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°C, 75 Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	40	—	870	MHz
Power Gain	50 MHz 870 MHz	G_p	26.2 27	27.2 27.7	27.8 29.5	dB
Slope	40–870 MHz	S	0	0.6	2	dB
Gain Flatness (40–870 MHz, Peak to Valley)		G_F	—	0.4	0.8	dB
Return Loss — Input/Output (Z_o = 75 Ohms) @ 40 MHz @ f > 40 MHz (Derate)		IRL/ORL	 20 —	 — —	 — 0.007	 dB dB/MHz
Composite Second Order (V_{out} = +38 dBmV/ch., Worst Case)	128–Channel FLAT	CSO_{128}	—	–69	–64	dBc
Cross Modulation Distortion @ Ch 2 (V_{out} = +38 dBmV/ch., FM = 55 MHz)	128–Channel FLAT	XMD_{128}	—	–65	–62	dBc
Composite Triple Beat (V_{out} = +38 dBmV/ch., Worst Case)	128–Channel FLAT	CTB_{128}	—	–69	–64	dBc
Noise Figure	50 MHz 870 MHz	NF	— —	— 6.0	5.5 7.0	dB
DC Current (V_{DC} = 24 V, T_C = 30°C)		I_{DC}	280	310	350	mA

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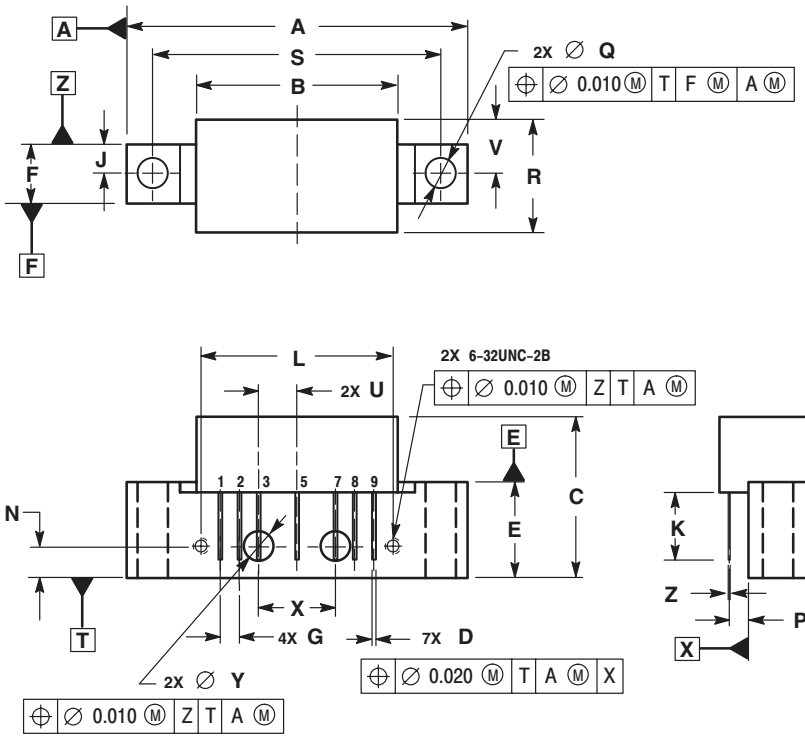
PACKAGE DIMENSIONS



DIM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	---	1.775	---	45.085
B	---	1.085	---	27.559
C	---	0.840	---	21.336
D	0.015	0.021	0.381	0.533
E	0.465	0.510	11.811	12.954
F	0.300	0.325	7.62	8.255
G	0.100 BSC		2.540 BSC	
J	0.156 BSC		3.962 BSC	
K	0.315	0.355	8.001	9.017
L	1.000 BSC		25.400 BSC	
N	0.165 BSC		4.191 BSC	
P	0.100 BSC		2.540 BSC	
Q	0.148	0.168	3.759	4.267
R	---	0.600	---	15.24
S	1.500 BSC		38.100 BSC	
U	0.200 BSC		5.080 BSC	
V	---	0.250	---	6.350
W	0.435	---	11.049	---
X	0.400 BSC		10.160 BSC	
Y	0.152	0.163	3.861	4.140
Z	0.009	0.011	0.229	0.279

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

CASE 1302–01
ISSUE B

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