

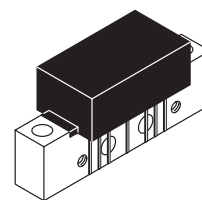
The RF Line Low Distortion Wideband Reverse Amplifier Module

Designed specifically for broadband applications requiring low multi-channel distortion characteristics. Specified for use as return amplifiers for 2-way cable TV systems.

- Designed for Low Power Consumption
- Specified for 6 and 10 Channel Performance
- Guaranteed Broadband Power Gain
- Guaranteed Broadband Noise Figure
- All Gold Metallization
- Designed to Ensure Good Gain Stability versus Temperature

MHW1303LA

**5–200 MHz, 30.8 dB
CATV LOW CURRENT AMPLIFIER**



CASE 1302-01, STYLE 1

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
DC Supply Voltage	V_{CC}	+28	Vdc
RF Input Voltage (Single Tone)	V_{in}	+60	dBmV
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)

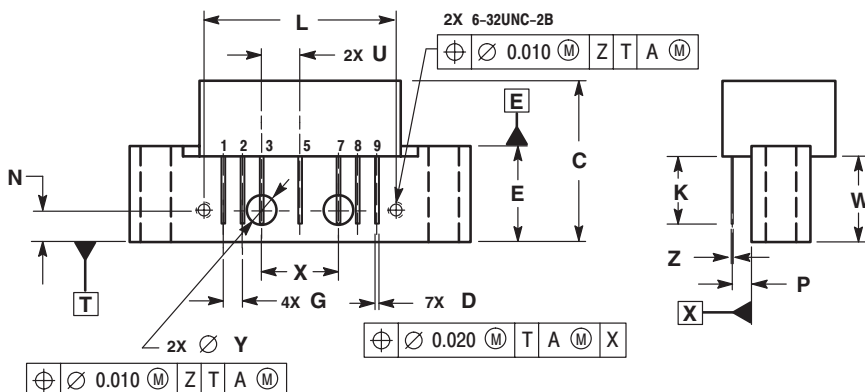
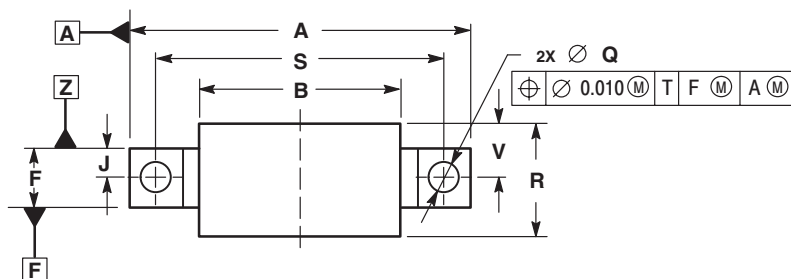
Characteristic	Symbol	Min	Typ	Max	Unit
Bandwidth All	BW	5	—	200	MHz
Power Gain (f = 5 MHz)	G_p	30	30.8	31.2	dB
Slope (5–200 MHz)	S	0	—	1.0	dB
Gain Flatness (Peak To Valley) (5–200 MHz)	—	—	—	0.7	dB
Return Loss — Input/Output (@ f = 5–65 MHz) (@ f = 65–200 MHz)	IRL/ORL	20 18	— —	— —	dB
Composite Second Order ($V_{out} = +50$ dBmV per Ch., Worst Case)					dB
6-Channel FLAT	CSO_6	—	– 73	– 68	
10-Channel FLAT	CSO_{10}	—	– 70	– 65	

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 ($V_{out} = +50$ dBmV per Ch., Worst Case)					dB
6-Channel FLAT	XMD_6	—	–67	–64	
10-Channel FLAT	XMD_{10}	—	–61	–58	
Composite Triple Beat ($V_{out} = +50$ dBmV per Ch., Worst Case)					dB
6-Channel FLAT	CTB_6	—	–76	–74	
10-Channel FLAT	CTB_{10}	—	–67	–64	
Noise Figure ($f = 5$ –200 MHz)	NF	—	5	5.7	dB
DC Current	I_{DC}	85	95	110	mA

NOTES


PACKAGE DIMENSIONS



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	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

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Motorola data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer. MOTOROLA and the  logo are registered in the US Patent & Trademark Office. All other product or service names are the property of their respective owners.

© Motorola, Inc. 2002.

How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution; P.O. Box 5405, Denver, Colorado 80217. 1-303-675-2140 or 1-800-441-2447

JAPAN: Motorola Japan Ltd.; SPS, Technical Information Center, 3-20-1, Minami-Azabu. Minato-ku, Tokyo 106-8573 Japan. 81-3-3440-3569

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; Silicon Harbour Centre, 2 Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong. 852-26668334

Technical Information Center: 1-800-521-6274

HOME PAGE: <http://www.motorola.com/semiconductors/>



MHW1303LA/D