

The RF Line

CATV Amplifier Module

Features

- Specified for 6- and 10-Channel Loading
- Excellent Distortion Performance
- Low Power Consumption
- Capable of Handling Multiple Channels in the Return Path with Good Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

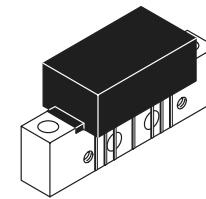
- CATV Systems Operating in the 5 to 200 MHz Frequency Range
- Specified for Use as a Return Path Amplifier for Low-, Mid- and High-Split 2-Way Cable TV Systems

Description

- 24 Vdc Supply, 5 to 200 MHz, CATV Reverse Amplifier

MHW1253LA

5-200 MHz, 25.5 dB
10-CHANNEL
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°C, 75 Ω system, unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Bandwidth	BW	5	—	200	MHz
Power Gain (f = 5 MHz)	G _p	25	25.5	26	dB
Slope (5-200 MHz)	S	-0.2	—	0.7	dB
Gain Flatness (Peak To Valley) (5-200 MHz)	G _F	—	—	0.4	dB
Return Loss — Input/Output (@ f = 5-150 MHz) (@ f = 150-200 MHz)	IRL/ORL	20 18	—	—	dB
Composite Second Order (V _{out} = +50 dBmV per Ch., Worst Case) 6-Channel FLAT 10-Channel FLAT	CSO ₆ CSO ₁₀	—	-73 -71	-68 -66	dBc

Freescale Semiconductor, Inc.

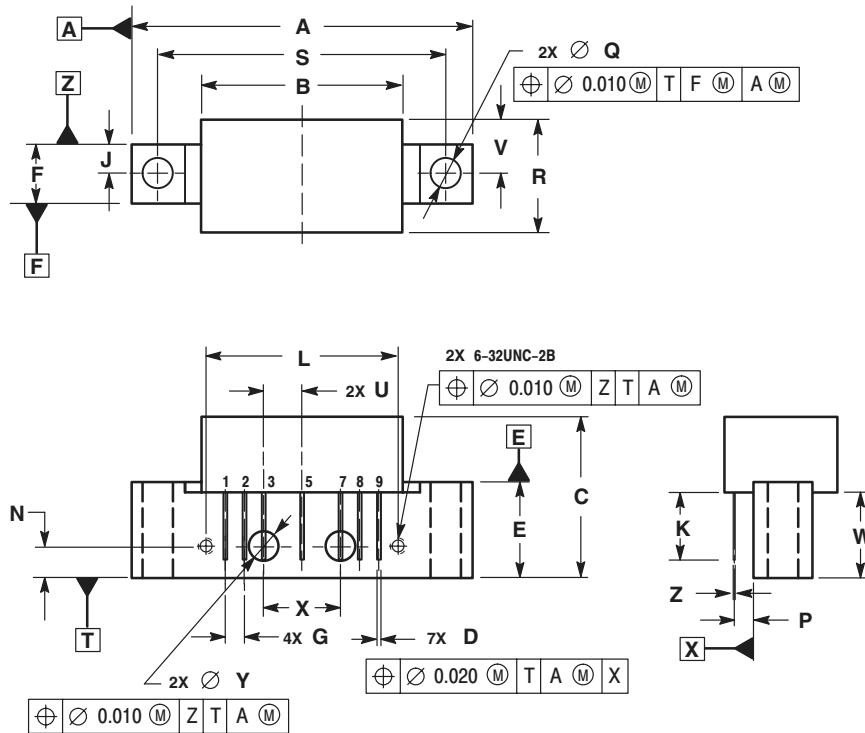
ELECTRICAL CHARACTERISTICS – continued ($V_{CC} = 24$ Vdc, $T_C = 30^\circ\text{C}$, $75\ \Omega$ system, unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Cross Modulation Distortion ($V_{out} = +50$ dBmV per Ch., Worst Case) 6–Channel FLAT 10–Channel FLAT	XMD ₆ XMD ₁₀	— —	–69 –64	–65 –61	dBc
Composite Triple Beat ($V_{out} = +50$ dBmV per Ch., Worst Case) 6–Channel FLAT 10–Channel FLAT	CTB ₆ CTB ₁₀	— —	–78 –69	–75 –66	dBc
Noise Figure ($f = 5$ –200 MHz)	NF	—	5.8	6.5	dB
DC Current	I _{DC}	85	95	110	mA

NOTES

Freescale Semiconductor, Inc.

PACKAGE DIMENSIONS



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	---	1.75	---	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

CASE 1302-01 ISSUE B

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MHW1253LA/D