

The RF Line  
**CATV Amplifier Module**

**MHW1254L**

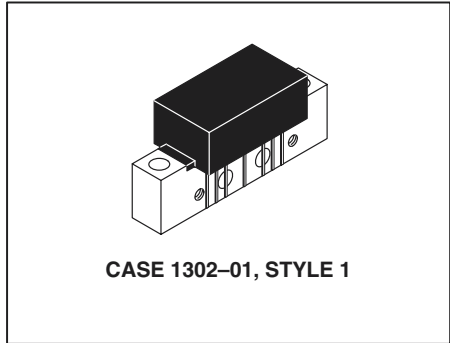
**Features**

- Specified for 4-Channel Loading
- Superior Gain, Return Loss and DC Current Stability over Temperature
- Capable of Handling Multiple Channels in the Return Path with Good Distortion Performance
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

**50 MHz, 25 dB  
 4-CHANNEL  
 CATV LOW CURRENT AMPLIFIER**

**Applications**

- CATV Systems Operating in the 5 to 50 MHz Frequency Range
- Specified for Use as a Return Path Amplifier for Low-Split 2-Way Cable TV Systems



**Description**

- 24 Vdc Supply, 5 to 50 MHz, CATV Reverse Amplifier

**MAXIMUM RATINGS**

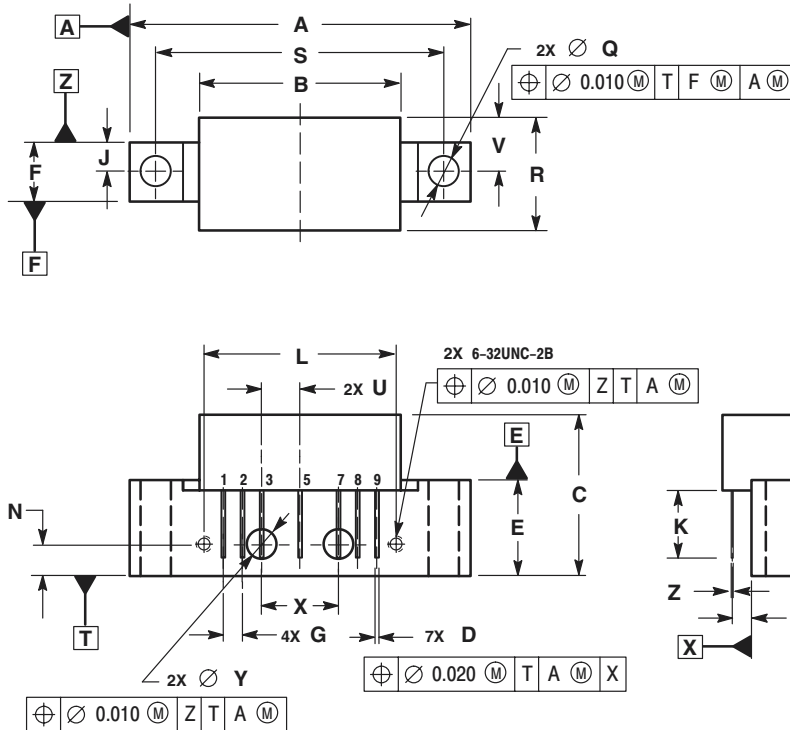
Parameter	Symbol	Value	Unit
DC Supply Voltage	$V_{CC}$	+28	Vdc
RF Input Voltage (Single Tone)	$V_{IN}$	+70	dBmV
Operating Case Temperature Range	$T_C$	- 20 to +100	°C
Storage Temperature Range	$T_{stg}$	- 40 to +100	°C

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

Characteristic	Symbol	Min	Max	Unit
Bandwidth	BW	5.0	50	MHz
Power Gain (f = 5.0 MHz)	$G_p$	24.3	25.8	dB
Return Loss (@ f = 5.0-50 MHz)	RL	20	—	dB
Second Order Distortion ( $V_{out} = +50$ dBmV/ch)	IMD	—	-70	dBc
Cross Modulation ( $V_{out} = +50$ dBmV/ch)	$XMD_4$	—	-62	dBc
Triple Beat Distortion ( $V_{out} = +50$ dBmV/ch)	$TB_3$	—	-70	dBc
Noise Figure (f = 50 MHz)	NF	—	4.5	dB
DC Current	IDC	100	135	mA

# Freescale Semiconductor, Inc.

## 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

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### 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**

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