Freescale Semiconductor
Technical Data

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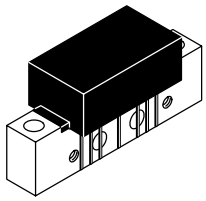
Rev. 5, 5/2006

RoHS

CATV Amplifier Module

MHW1254LN

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



CASE 1302-01, STYLE 1

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

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 Module
- Replaced MHW1254L. There are no form, fit or function changes with this part replacement.
- RoHS Compliant

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Table 1. 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

Table 2. Electrical Characteristics (V_{CC} = 24 Vdc, T_C = 30°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

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NOTES

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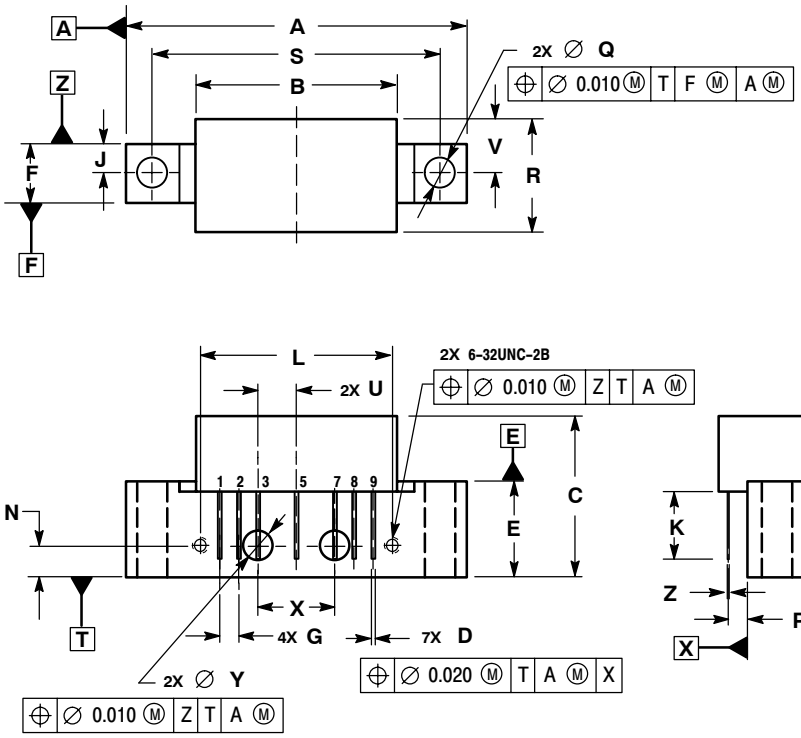
PACKAGE DIMENSIONS



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 E

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