

The RF Line CATV Amplifier Module

Features

- Specified for 77- and 110-Channel Loading
- Lower DC Current Requirements
- Excellent Distortion Performance
- Excellent DC Current Stability over Temperature
- Silicon Bipolar Transistor Technology
- Unconditionally Stable Under All Load Conditions

Applications

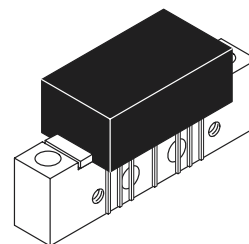
- CATV Systems Operating in the 40 to 750 MHz Frequency Range
- Output Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications
- Amplifier Requiring Lower Power Dissipation While Maintaining Excellent Output Performance

Description

- 24 Vdc Supply, 40 to 750 MHz, CATV Forward Power Doubler Amplifier

MHW7185CL

**750 MHz
19.2 dB GAIN
110-CHANNEL
CATV AMPLIFIER**



CASE 714Y-04, STYLE 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+70	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, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain 50 MHz 750 MHz	G_p	18 18.7	18.5 19.2	19 19.7	dB
Slope 40-750 MHz	S	0.3	0.6	1.3	dB
Gain Flatness (40-750 MHz, Peak to Valley)	G_F	—	0.3	0.6	dB
Return Loss — Input/Output ($Z_0 = 75$ Ohms) @ 40 MHz @ $f > 40$ MHz (Derate)	IRL/ORL	20 —	— —	— 0.007	dB dB/MHz
Composite Second Order ($V_{out} = +44$ dBmV/ch., Worst Case) 110-Channel FLAT 77-Channel FLAT	CSO_{110} CSO_{77}	— —	-70 -83	-64 -68	dBc
Cross Modulation Distortion @ Ch 2 ($V_{out} = +44$ dBmV/ch., FM = 55 MHz) 110-Channel FLAT 77-Channel FLAT	XMD_{110} XMD_{77}	— —	-66 -69	-63 -67	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
Composite Triple Beat ($V_{out} = +44$ dBmV/ch., Worst Case)	110–Channel FLAT	CTB_{110}	—	–63.5	–61	dBc
	77–Channel FLAT	CTB_{77}	—	–70	–68	
Noise Figure	50 MHz	NF	—	5.3	6.2	dB
	550 MHz		—	5.8	—	
	750 MHz		—	6.5	7.5	
DC Current ($V_{DC} = 24$ V, $T_C = -20$ to $+100^\circ\text{C}$)		I_{DC}	345	370	385	mA

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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

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



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