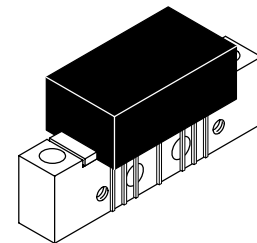


# CATV Amplifier Module

**MHW7205CLN**

**750 MHz  
20 dB GAIN  
110-CHANNEL  
CATV AMPLIFIER MODULE**



**CASE 714Y-04, STYLE 1**

**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 Module
- Replaced MHW7205CL. There are no form, fit or function changes with this part replacement.
- RoHS Compliant

**Table 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

**Table 2. Electrical Characteristics** ( $V_{CC} = 24$  Vdc,  $T_C = +30^\circ\text{C}$ , 75  $\Omega$  system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	$G_p$	19 19.7	19.5 20	20 21.2	dB
Slope	S	0.2	0.5	1.7	dB
Gain Flatness (40 - 750 MHz, Peak to Valley)	$G_F$	—	0.3	0.8	dB
Return Loss — Input/Output ( $Z_o = 75$ Ohms)	IRL/ORL	20	—	—	dB
@ 40 MHz		—	—	0.007	dB/MHz
@ $f > 40$ MHz (Derate)					
Composite Second Order ( $V_{out} = +44$ dBmV/ch., Worst Case)	$CSO_{110}$ $CSO_{77}$	— —	-69 -80	-63 -67	dBc
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +44$ dBmV/ch., FM = 55 MHz)	$XMD_{110}$ $XMD_{77}$	— —	-65 -69	-62 -66	dBc

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**Table 2. Electrical Characteristics** ( $V_{CC} = 24 \text{ Vdc}$ ,  $T_C = +30^\circ\text{C}$ ,  $75 \Omega$  system unless otherwise noted) **(continued)**

Characteristic	Symbol	Min	Typ	Max	Unit
Composite Triple Beat ( $V_{out} = +44 \text{ dBmV/ch.}$ , Worst Case)					dBc
110-Channel FLAT	$CTB_{110}$	—	-63	-61	
77-Channel FLAT	$CTB_{77}$	—	-70	-68	
Noise Figure	NF	—	5.0	6.2	dB
50 MHz		—	5.8	—	
550 MHz		—	6.2	7.5	
750 MHz		—	—	—	
DC Current ( $V_{DC} = 24 \text{ V}$ , $T_C = -20 \text{ to } +100^\circ\text{C}$ )	$I_{DC}$	345	365	385	mA

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