



# Gallium Arsenide CATV Amplifier Module

## Features

- Specified for 79- and 112-Channel Loading
- Excellent Distortion Performance
- Higher Output Capability
- Built-in Input Diode Protection
- GaAs FET Transistor Technology
- Unconditionally Stable Under All Load Conditions
- Output Port Ring Wave Protection

## Applications

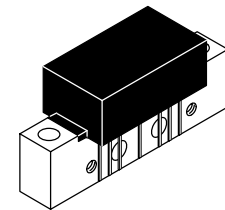
- CATV Systems Operating in the 47 to 870 MHz Frequency Range
- Output Stage Amplifier in Optical Nodes, Line Extenders and Trunk Distribution Amplifiers for CATV Systems
- Driver Amplifier in Linear General Purpose Applications

## Description

- 24 Vdc Supply, 47 to 870 MHz, CATV GaAs Forward Power Doubler Amplifier Module
- Replaced MHW8267A. There are no form, fit or function changes with this part replacement.
- RoHS Compliant

**MHW8267AN**

**870 MHz  
27.6 dB GAIN  
112-CHANNEL  
GaAs CATV AMPLIFIER MODULE**



**CASE 1302-01, STYLE 1**

**Table 1. Maximum Ratings**

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	$V_{in}$	+70	dBmV
DC Supply Voltage	$V_{CC}$	+26	Vdc
Operating Case Temperature Range	$T_C$	-20 to +100	°C
Storage Temperature Range	$T_{stg}$	-40 to +100	°C

**Table 2. ESD Maximum Ratings**

Rating	Input Value	Output Value	Unit
Surge Voltage per IEC 1000-4-5	200	200	V
Human Body Model per Mil. Std. 1686	2	2	kV

**Table 3. Electrical Characteristics** ( $V_{CC} = 24$  Vdc,  $T_C = +45^\circ\text{C}$ , 75  $\Omega$  system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	870	MHz
Power Gain 870 MHz	$G_p$	27	27.6	28.2	dB
Slope 47-870 MHz	S	0	0.7	1.4	dB
Gain Flatness (40-870 MHz, Peak-to-Valley)	$G_F$	—	—	0.7	dB
Return Loss — Input ( $Z_o = 75$ Ohms)	IRL	20 18 16	— — —	— — —	dB
		47-500 MHz			
		501-750 MHz			
		751-870 MHz			

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**Table 3. Electrical Characteristics** ( $V_{CC} = 24$  Vdc,  $T_C = +45^\circ\text{C}$ ,  $75 \Omega$  system unless otherwise noted) (continued)

Characteristic		Symbol	Min	Typ	Max	Unit
Return Loss — Output ( $Z_o = 75$ Ohms)	47-160 MHz f > 160-700 MHz f > 701-870 MHz	ORL	20 18 16	— — —	— — —	dB
Composite Second Order ( $V_{out} = +48$ dBmV/ch., Worst Case) ( $V_{out} = +48$ dBmV/ch., Worst Case) ( $V_{out} = +56$ dBmV @ 870 MHz Equiv) ( $V_{out} = +58$ dBmV @ 870 MHz Equiv)	112-Channel FLAT 79-Channel FLAT 112-Channel, 12db Tilt 79-Channel, 12db Tilt	$CSO_{112}$ $CSO_{79}$ $CSO_{112}$ $CSO_{79}$	— — — —	-64 -68 -64 -69	-62 -66 -62 -67	dBc
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +48$ dBmV/ch., FM = 55 MHz) ( $V_{out} = +48$ dBmV/ch., FM = 55 MHz) ( $V_{out} = +56$ dBmV @ 870 MHz Equiv) ( $V_{out} = +58$ dBmV @ 870 MHz Equiv)	112-Channel FLAT 79-Channel FLAT 112-Channel, 12db Tilt 79-Channel, 12db Tilt	$XMD_{112}$ $XMD_{79}$ $XMD_{112}$ $XMD_{79}$	— — — —	-57 -59 -52 -55	-55 -57 -50 -52	dBc
Composite Triple Beat ( $V_{out} = +48$ dBmV/ch., Worst Case) ( $V_{out} = +48$ dBmV/ch., Worst Case) ( $V_{out} = +56$ dBmV @ 870 MHz Equiv) ( $V_{out} = +58$ dBmV @ 870 MHz Equiv)	112-Channel FLAT 79-Channel FLAT 112-Channel, 12db Tilt 79-Channel, 12db Tilt	$CTB_{112}$ $CTB_{79}$ $CTB_{112}$ $CTB_{79}$	— — — —	-59 -66 -57 -62	-57 -64 -55 -60	dBc
Noise Figure	50 MHz 550 MHz 750 MHz 870 MHz	NF	— — — —	5.5 5.5 5.8 6.0	— — — —	dB
DC Current ( $V_{DC} = 24$ V, $T_C = 45^\circ\text{C}$ )		$I_{DC}$	410	440	460	mA



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