

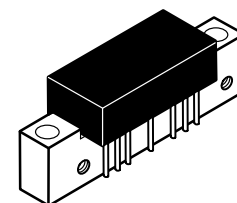
The RF Line 110-Channel (750 MHz), 128-Channel (860 MHz) & 152-Channel (1000 MHz) CATV Amplifiers

MHW7182
MHW8182
MHW9182

The MHW7182, MHW8182, and MHW9182 are designed specifically for up to 1000 MHz CATV systems as output amplifiers in trunk and line extender applications. These amplifiers feature ion-implanted, arsenic emitter transistors and an all gold metallization system.

- Specified for 110/128/152-Channel Performance
- Broadband Power Gain — @ f = 40–1000 MHz
G_p = 18.2 dB Min @ 750, 860 & 1000 MHz
- Broadband Noise Figure
NF = 5.5 dB Typ — MHW7182
6.0 dB Typ — MHW8182
6.5 dB Typ — MHW9182
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization

18 dB GAIN
750/860/1000 MHz
110/128/152 CHANNEL
CATV AMPLIFIERS



CASE 714-06, STYLE 1

MAXIMUM RATINGS

Rating	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°C, 75 ohm system, unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range MHW7182 MHW8182 MHW9182	BW	40 40 40	— — —	750 860 1000	MHz
Power Gain 50 MHz All 750 MHz MHW7182 860 MHz MHW8182 1000 MHz MHW9182	G _p	17.6 18.2 18.2 18.2	18.2 18.9 19.0 19.2	18.8 20.5 20.5 20.7	dB
Slope MHW7182, MHW8182, MHW9182	S	0	1.0	2.5	—
Gain Flatness (Peak To Valley) MHW7182, MHW8182 MHW9182	G _f	— —	0.4 0.4	0.6 0.8	—
Input/Output Return Loss @ f = 40 MHz MHW7182, MHW8182, MHW9182	IRL/ORL	20	24	—	dB
Derate Return Loss @ f > 40 MHz (Ref = 20 dB @ 40 MHz) MHW7182 MHW8182 MHW9182	RLD	— — —	— — —	0.007 0.008 0.009	dB/MHz
Composite Second Order (V _{out} = +40 dBmV/ch; 110 Channels) MHW7182 (V _{out} = +38 dBmV/ch; 128 Channels) MHW8182 (V _{out} = +38 dBmV/ch; 152 Channels) MHW9182	CSO ₁₁₀ CSO ₁₂₈ CSO ₁₅₂	— — —	-67 -67 -67	-62 -60 -59	dB

(continued)

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

Characteristic	Symbol	Min	Typ	Max	Unit	
Cross Modulation Distortion ($V_{out} = +40 \text{ dBmV/ch}$, 110-Channel @ $F_m = 55.25 \text{ MHz}$) ($V_{out} = +38 \text{ dBmV/ch}$, 128-Channel @ $F_m = 55.25 \text{ MHz}$) ($V_{out} = +38 \text{ dBmV/ch}$, 152-Channel @ $F_m = 55.25 \text{ MHz}$)	MHW7182 MHW8182 MHW9182	XMD ₁₁₀ XMD ₁₂₈ XMD ₁₅₂	— — —	-68 -68 -68	-64 -60 -59	dBc
Composite Triple Beat ($V_{out} = +40 \text{ dBmV/ch}$, 110-Channels, Worst Case) ($V_{out} = +38 \text{ dBmV/ch}$, 128-Channels, Worst Case) ($V_{out} = +38 \text{ dBmV/ch}$, 152-Channels, Worst Case)	MHW7182 MHW8182 MHW9182	CTB ₁₁₀ CTB ₁₂₈ CTB ₁₅₂	— — —	-64 -62 -61	-62 -60 -59	dBc
Noise Figure $f = 50 \text{ MHz}$ $f = 750 \text{ MHz}$ $f = 860 \text{ MHz}$ $f = 1000 \text{ MHz}$	MHW7182 MHW8182 MHW9182	NF	— — — —	3.6 5.5 6.0 6.5	5.0 6.5 7.0 8.0	dB
DC Current		I_{DC}	180	210	240	mA

PACKAGE DIMENSIONS

Q 2 PL
 $\text{⊕ } \text{⌀ } 0.25 (0.010) \text{ (M) T F (M) A (M)}$

6-32UNC-2B 2 PL
 $\text{⊕ } \text{⌀ } 0.25 (0.010) \text{ (M) Z T A (M)}$

D 7 PL
 $\text{⊕ } \text{⌀ } 0.25 (0.010) \text{ (M) T A (M)}$

NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	—	1.775	—	45.08
B	—	1.085	—	27.56
C	—	0.840	—	21.34
D	0.018	0.022	0.46	0.56
E	0.465	0.510	11.81	12.95
F	0.300	0.325	7.62	8.25
G	0.100 BSC	—	2.54 BSC	—
J	0.156 BSC	—	3.96 BSC	—
K	0.315	0.355	8.00	8.50
L	1.00 BSC	—	25.40 BSC	—
N	0.165 BSC	—	4.10 BSC	—
P	0.100 BSC	—	2.54 BSC	—
Q	0.148	0.168	3.76	4.27
R	—	0.595	—	15.11
S	1.500 BSC	—	38.10 BSC	—
U	0.200 BSC	—	5.08 BSC	—
V	0.280 BSC	—	7.11 BSC	—
W	0.435	0.450	11.05	11.43

STYLE 1:
 PIN 1. RF INPUT
 2. GROUND
 3. GROUND
 4. DELETED
 5. VDC
 6. DELETED
 7. GROUND
 8. GROUND
 9. RF OUTPUT

**CASE 714-06
 ISSUE K**

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MHW7182/D

