

The RF Line

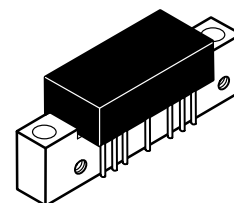
110-Channel (750 MHz), 128-Channel (860 MHz) & 152-Channel (1000 MHz) CATV Amplifiers

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 — @ $f = 40\text{--}1000\text{ MHz}$
 $G_p = 18.2\text{ dB Min @ } 750, 860 \text{ \& } 1000\text{ MHz}$
- 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 ($V_{CC} = 24\text{ Vdc}$; $T_C = +30^\circ\text{C}$, 75 ohm system, unless otherwise noted)

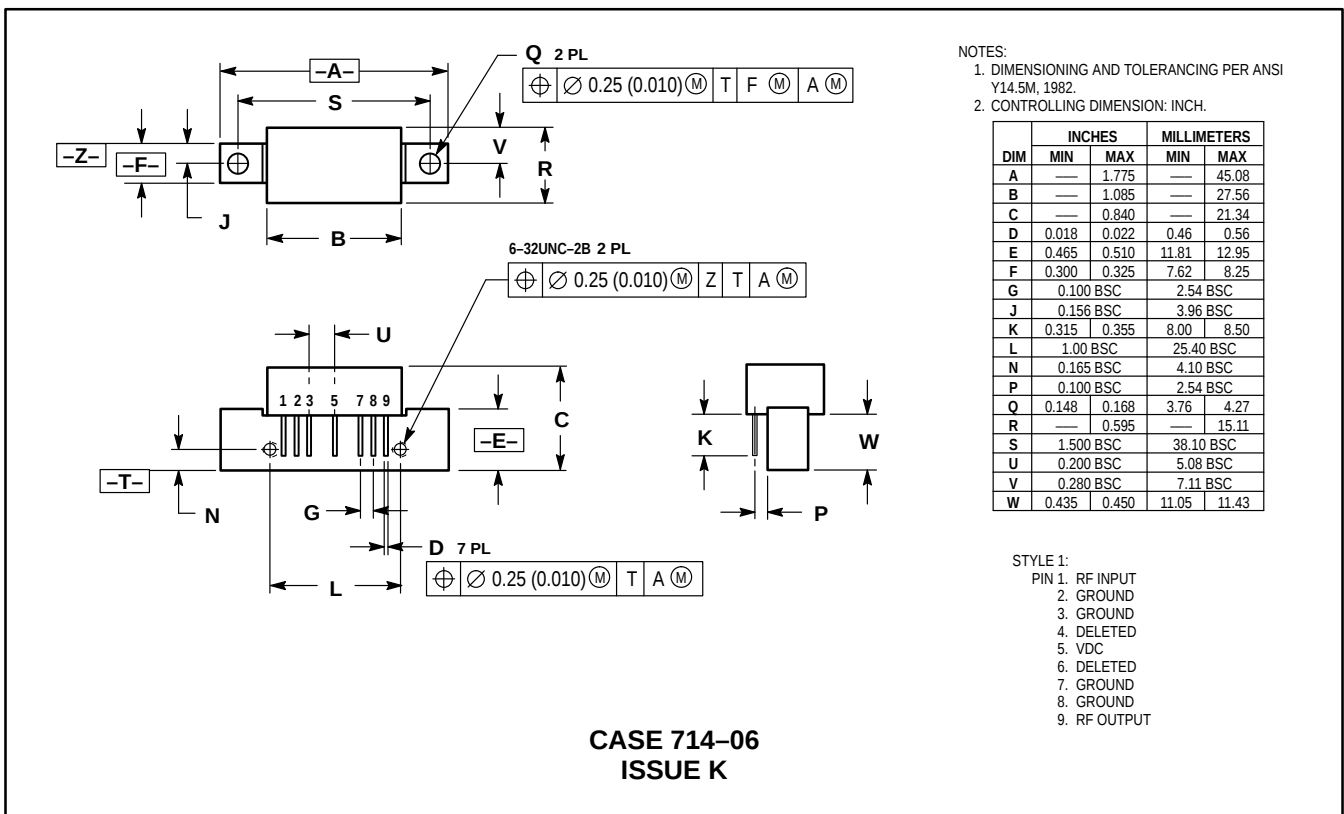
Characteristic			Symbol	Min	Typ	Max	Unit
Frequency Range	MHW7182	BW	40	—	750	MHz	
	MHW8182		40	—	860		
	MHW9182		40	—	1000		
Power Gain	50 MHz	G _p	17.6	18.2	18.8	dB	
	750 MHz		MHW7182	18.2	18.9		20.5
	860 MHz		MHW8182	18.2	19.0		20.5
	1000 MHz		MHW9182	18.2	19.2		20.7
Slope	MHW7182, MHW8182, MHW9182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

(continued)

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

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

PACKAGE DIMENSIONS



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MHW7182/D

