

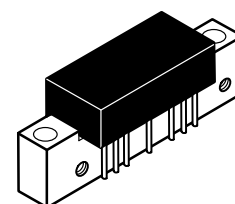
## The RF Line 550 MHz CATV Amplifier

... designed specifically for 550 MHz CATV applications. Features ion-implanted arsenic emitter transistors with 7.0 GHz  $f_T$  and an all gold metallization system.

- Specified for 77-Channel Performance
- Broadband Power Gain — @  $f = 40\text{--}550\text{ MHz}$   
 $G_p = 12.5\text{ dB (Typ) @ } 50\text{ MHz}$   
 $13\text{ dB (Min) @ } 550\text{ MHz}$
- Broadband Noise Figure @ 550 MHz  
 $NF = 8.5\text{ dB (Max)}$
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7.0 GHz Ion-Implanted Transistors

**MHW6122**

**12 dB GAIN  
550 MHz  
77-CHANNEL  
CATV INPUT/OUTPUT  
TRUNK AMPLIFIER**



**CASE 714-06, STYLE 1**

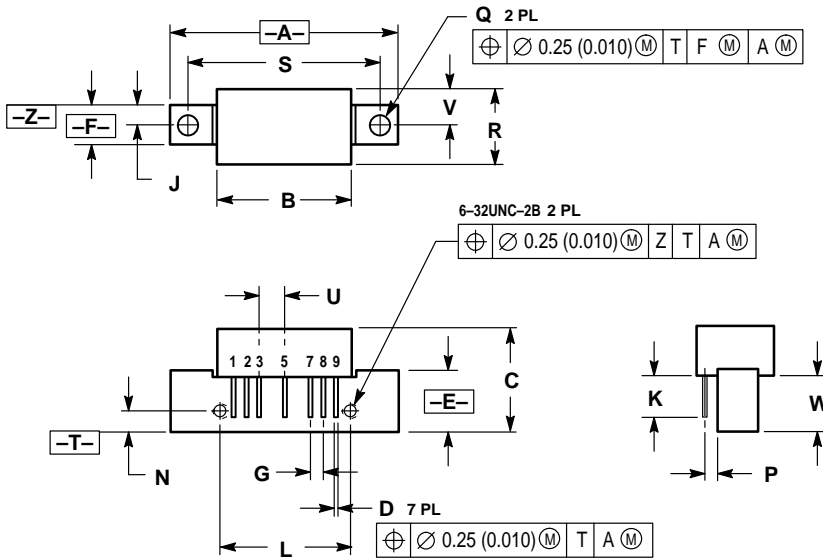
### ABSOLUTE MAXIMUM RATINGS

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

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	550	MHz
Power Gain — 50 MHz	$G_p$	12	12.5	13	dB
Power Gain — 550 MHz	$G_p$	12.5	—	—	dB
Slope	S	0.2	—	1.5	dB
Gain Flatness (Peak To Valley)	—	—	0.2	0.4	dB
Return Loss — Input/Output ( $Z_0 = 75\text{ Ohms}$ )	IRL/ORL	18	—	—	dB
Second Order Intermodulation Distortion ( $V_{out} = +46\text{ dBmV}$ , Ch 2, M13, M22) ( $V_{out} = +44\text{ dBmV}$ , Ch 2, M30, M39)	IMD	— —	— —	-72 -72	dB
Cross Modulation Distortion ( $V_{out} = +46\text{ dBmV}$ ) ( $V_{out} = +44\text{ dBmV}$ )	60-Channel FLAT 77-Channel FLAT	XMD <sub>60</sub> XMD <sub>77</sub>	— —	-63 -65	dB
Composite Triple Beat ( $V_{out} = +46\text{ dBmV}$ ) ( $V_{out} = +44\text{ dBmV}$ )	60-Channel FLAT 77-Channel FLAT	CTB <sub>60</sub> CTB <sub>77</sub>	— —	-62 -58	dB
Noise Figure ( $f = 550\text{ MHz}$ )	NF	—	7.0	8.5	dB
DC Current	$I_{DC}$	—	210	240	mA

## PACKAGE DIMENSIONS




- 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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MHW6122/D

