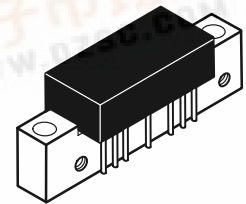


## The RF Line 77-Channel (550 MHz) CATV Line Extender Amplifier

- Specified for 60- and 77-Channel Performance
- Broadband Power Gain — @  $f = 40\text{--}550\text{ MHz}$   
 $G_p = 27\text{ dB (Typ)}$
- Broadband Noise Figure  
 $NF = 6\text{ dB (Typ)}$  @ 550 MHz
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7 GHz  $f_T$  Ion-Implanted Transistors

**MHW6272**

**27 dB GAIN  
550 MHz  
77-CHANNEL  
CATV AMPLIFIER**



**CASE 714-06, STYLE 1**

### MAXIMUM RATINGS

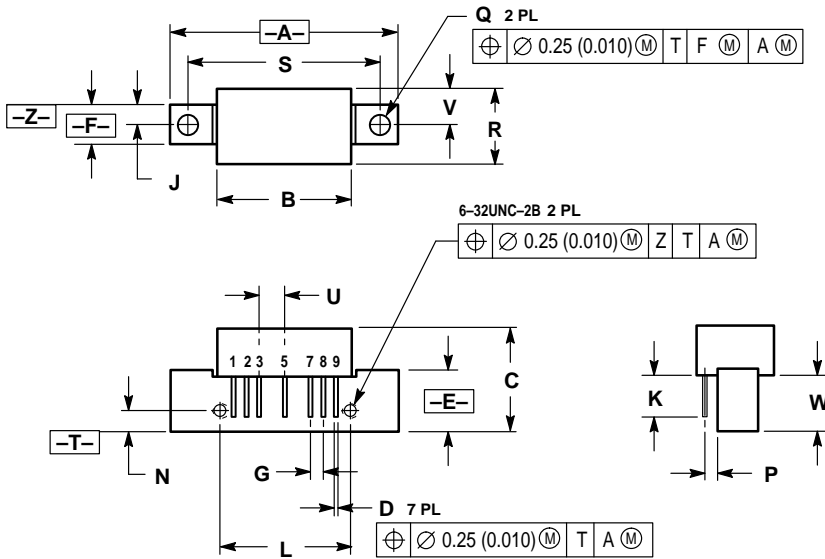
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	$V_{in}$	+55	dBmV
DC Supply Voltage	$V_{CC}$	+28	Vdc
Operating Case Temperature Range	$T_C$	-20 to +100	°C
Storage Temperature Range	$T_{stg}$	-40 to +100	°C

### 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	$G_p$	26.2	27	27.8	dB
		27	—	29.2	
Slope	S	0	1	2	dB
Gain Flatness (Peak To Valley)	—	—	0.4	0.8	dB
Return Loss — Input/Output ( $Z_0 = 75\text{ Ohms}$ )	IRL/ORL	18	—	—	dB
		16	—	—	
Second Order Intermodulation Distortion ( $V_{out} = +48\text{ dBmV}$ per ch., Ch 2, 13, R) ( $V_{out} = +46\text{ dBmV}$ per ch., Ch 2, M6, M15) ( $V_{out} = +46\text{ dBmV}$ per ch., Ch 2, M13, M22) ( $V_{out} = +44\text{ dBmV}$ per ch., Ch 2, M30, M39)	IMD	—	-80	—	dB
		—	-78	—	
		—	-76	—	
		—	-69	-64	
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +46\text{ dBmV}$ per ch.)	XMD <sub>53</sub>	—	-63	—	dB
	XMD <sub>60</sub>	—	-62	—	
( $V_{out} = +44\text{ dBmV}$ per ch.)	XMD <sub>70</sub>	—	-61	—	
	XMD <sub>77</sub>	—	-59	-57	
Composite Triple Beat ( $V_{out} = +46\text{ dBmV}$ per ch.)	TB <sub>53</sub>	—	-63	—	dB
	TB <sub>60</sub>	—	-62	—	
( $V_{out} = +44\text{ dBmV}$ per ch.)	TB <sub>70</sub>	—	-61	—	
	TB <sub>77</sub>	—	-59	-57	
Noise Figure	NF	—	6.0	6.5	dB
DC Current	$I_{DC}$	—	310	340	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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