

The RF Line

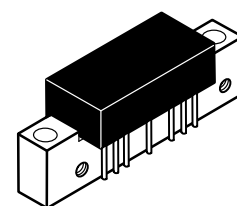
77-Channel (550 MHz) CATV Amplifier

... designed specifically for 550 MHz CATV applications. Features ion-implanted arsenic emitter transistors with 7 GHz f_T and an all gold metallization system.

- Specified for 77-Channel Performance
- Broadband Power Gain — @ $f = 40\text{--}550\text{ MHz}$
 $G_p = 34.5\text{ dB (Typ) @ } 50\text{ MHz}$
 $35\text{ dB (Min) @ } 550\text{ MHz}$
- Broadband Noise Figure @ 550 MHz
 $NF = 5.5\text{ dB (Typ)}$
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7 GHz Ion-Implanted Transistors

MHW6342

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



CASE 714-06, STYLE 1

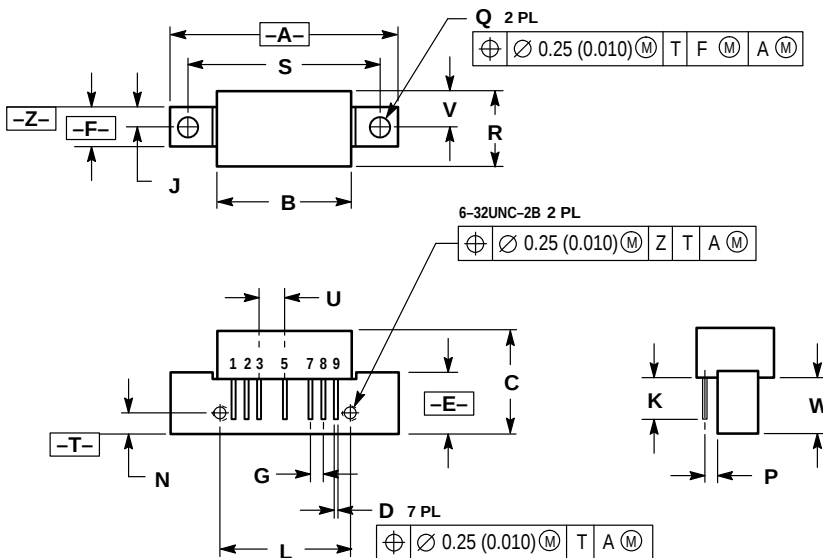
ABSOLUTE MAXIMUM RATINGS

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 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	550	MHz
Power Gain 50 MHz	G_p	33.5	34.5	35.5	dB
Power Gain 550 MHz	G_p	34.5	—	—	dB
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 16	— —	— —	dB
Second Order Intermodulation Distortion ($V_{out} = +46\text{ dBmV per ch.}$, Ch 2, M13, M22) ($V_{out} = +44\text{ dBmV per ch.}$, Ch 2, M30, M39)	IMD	— —	-75 -70	— -64	dB
Cross Modulation Distortion ($V_{out} = +46\text{ dBmV per ch.}$) 60-Channel FLAT ($V_{out} = +44\text{ dBmV per ch.}$) 77-Channel FLAT	XMD ₆₀ XMD ₇₇	— —	-61 -59	— -57	dB
Composite Triple Beat ($V_{out} = +46\text{ dBmV per ch.}$) 60-Channel FLAT ($V_{out} = +44\text{ dBmV per ch.}$) 77-Channel FLAT	CTB ₆₀ CTB ₇₇	— —	-60 -58	— -57	dB
Noise Figure 550 MHz	NF	—	5.5	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:
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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