

The RF Line

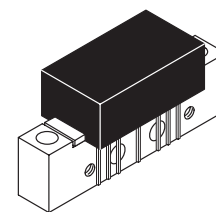
77-Channel (550 MHz) CATV Amplifier

MHW6342

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

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



CASE 714Y-03, STYLE 1

ABSOLUTE MAXIMUM RATINGS

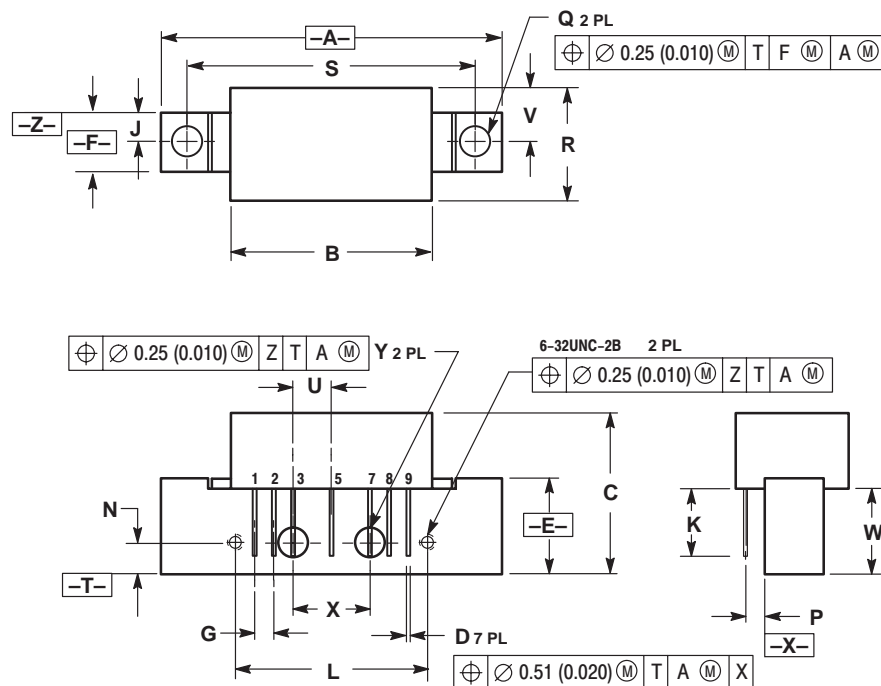
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+55	dBmV
DC Supply Voltage	V_{CC}	+28	Vdc
Operating Case Temperature Range	T_C	-20 to +100	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

ELECTRICAL CHARACTERISTICS ($V_{CC} = 24$ 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 ($Z_o = 75$ Ohms)	IRL/ORL	18 16	— —	— —	dB
Second Order Intermodulation Distortion ($V_{out} = +46$ dBmV per ch., Ch 2, M13, M22) ($V_{out} = +44$ dBmV per ch., Ch 2, M30, M39)	IMD	— —	-75 -70	— -64	dB
Cross Modulation Distortion ($V_{out} = +46$ dBmV per ch.) ($V_{out} = +44$ dBmV per ch.)	XMD ₆₀ XMD ₇₇	— —	-61 -59	— -57	dB
Composite Triple Beat ($V_{out} = +46$ dBmV per ch.) ($V_{out} = +44$ dBmV per ch.)	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	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	---	4.19 BSC	---
P	0.100 BSC	---	2.54 BSC	---
Q	0.148	0.168	3.76	4.27
R	---	0.600	---	15.24
S	1.500 BSC	---	38.10 BSC	---
U	0.200 BSC	---	5.08 BSC	---
V	---	0.250	---	6.35
W	0.435	0.450	11.05	11.43
X	0.400 BSC	---	10.16 BSC	---
Y	0.152	0.163	3.85	4.15

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

**CASE 714Y-03
ISSUE D**

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