

The RF Line

750 MHz CATV

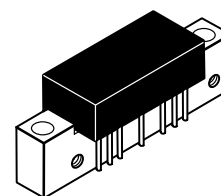
Conventional Hybrid Amplifier

Designed specifically for 750 MHz CATV applications. Features ion-implanted arsenic emitter transistors with an all gold metallization system.

- Supply Voltage = 24 Vdc
- 5th Generation Die Technology
- Specified for 110 Channel Performance
- Power Gain = 14.5 dB max @ f = 50 MHz
- Superior Gain, Return Loss and DC Current Stability
- All Gold Metallization

MHW7142

24 Vdc
750 MHz
110 – CHANNEL
CATV AMPLIFIER



CASE 714-06, Style 1

MAXIMUM RATINGS

Parameter	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 ($V_{CC} = 24Vdc$, $T_C = 25^\circ C$, 75 ohm system, unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Frequency	BW	40	750	MHz
Power Gain (f = 50 MHz)	Gp1	13.5	14.5	dB
Power Gain (f = 750 MHz)	Gp2	14.2	15.2	dB
Slope (f = 40 – 750 MHz)	S	0.3	1.5	dB
Gain Flatness (f = 40 – 750 MHz, Peak to Valley)	G_f	—	0.6	dB
Return Loss (@ f = 40 MHz)	RL	20	—	dB
Return Loss Derate (@ f > 40 MHz)	RLD	—	.006	dB/MHz
Composite Second Order ($V_{out} = +40$ dBmV/ch)	CSO ₁₁₀	—	-60	dBc

(continued)

ELECTRICAL CHARACTERISTICS — continued ($V_{CC} = 24V_{dc}$, $T_C = 25^\circ C$, 75 ohm system, unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Cross Modulation ($V_{out} = +40 \text{ dBmV/ch}$, FM = 55.25 MHz)	XMD ₁₁₀	—	-66	dBc
Composite Triple Beat ($V_{out} = +40 \text{ dBmV/ch}$)	CTB ₁₁₀	—	-62	dBc
Noise Figure (f = 50 MHz)	NF ₁	—	6.0	dB
Noise Figure (f = 750 MHz)	NF ₂	—	7.5	dB
DC Current	IDC	180	240	mA

PACKAGE DIMENSIONS

Q 2 PL
 $\text{⊕ } \text{⌀ } 0.25 (0.010) \text{ (M) T F (M) A (M)}$

6-32UNC-2B 2 PL
 $\text{⊕ } \text{⌀ } 0.25 (0.010) \text{ (M) Z T A (M)}$

D 7 PL
 $\text{⊕ } \text{⌀ } 0.25 (0.010) \text{ (M) T A (M)}$

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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