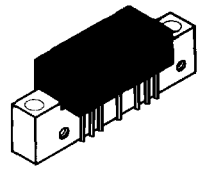
The RF Line
450 MHz CATV Amplifier

. . . designed specifically for 450 MHz CATV applications. Features ion–implanted arsenic emitter transistors with 7.0 GHz f_T and an all gold metallization system.

- Specified for 53– and 60–Channel Performance
- Broadband Power Gain – @ f = 40–450 MHz
  G_p = 27 dB (Typ)
- Broadband Noise Figure
  NF = 5.0 dB (Typ)
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7.0 GHz Ion–Implanted Transistors

MHW5272A

27 dB GAIN
450 MHz
60–CHANNEL
CATV LINE EXTENDER
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 Vdc, T_C = +30 C, 75 Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	40	—	450	MHz
Power Gain — 50 MHz		G_p	26.2	27	27.8	dB
Power Gain — 450 MHz		G_p	27.0	28.0	29.0	dB
Slope		S	0	+1.0	+2.5	dB
Gain Flatness (Peak To Valley)		—	—	0.4	0.6	dB
Return Loss — Input/Output (Z_O = 75 Ohms)	40–450 MHz	IRL/ORL	18	—	—	dB
Second Order Intermodulation Distortion (V_{out} = +46 dBmV per ch., Ch 2, M 6, M15) (V_{out} = +46 dBmV per ch., Ch 2, M13, M22)		IMD	 — —	 –78 –76	 — –68	dB
Cross Modulation Distortion (V_{out} = +46 dBmV)	53–Channel FLAT 60–Channel FLAT	XMD_{53} XMD_{60}	— —	–63 –63	— –60	dB
Composite Triple Beat (V_{out} = +46 dBmV)	53–Channel FLAT 60–Channel FLAT	CTB_{53} CTB_{60}	— —	–63 –61	— –59	dB
DIN (European Applications Only) 300 MHz — (CH V + Q – P @ W) 400 MHz — (CH M8 + M15 – M9 @ M14) 450 MHz — (CH M20 + M23 – M22 @ M21)		 DIN1 DIN2 DIN3	 — — —	 126 125 124	 — — —	dBμV
Noise Figure (f = 450 MHz)		NF	—	5.0	6.0	dB
DC Current		I_{DC}	—	310	340	mA

***DIN (European Applications Only)**

NCTA Channel Designation	Frequency (MHz)	DIN Output Level (dBmV)**(Typ)	DIN Beat Level dB Relative to Ref. Ch.
P	253.25	+60	≤−60
Q	259.25	+60	
V	289.25	+66	
W (Ref.)	295.25	+66	
M8	361.25	+59	≤−60
M9	367.25	+59	
M14 (Ref.)	397.25	+65	
M15	403.25	+65	
M20	433.25	+64	≤−60
M21 (Ref.)	439.25	+64	
M22	445.25	+58	
M23	451.25	+58	

**DIN (dBμV) = Reference Channel Level (dBmV) +60 dB