

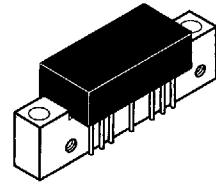
The RF Line  
**High Output Power Doubler**  
**550 MHz CATV Amplifiers**

Designed specifically for 550 MHz CATV applications. Features ion-implanted, arsenic emitter transistors with an all gold metallization system.

- Supply Voltage = 24 V
- 5th Generation Die Technology
- Specified for 77 Channel Performance
- Broadband Power Gain @ f = 50 MHz  
 $G_p = 20$  dB Typ (MHW6205)  
 $G_p = 22$  dB Typ (MHW6225)
- Broadband Noise Figure @ f = 50 MHz  
 $NF = 5$  dB Max
- Improvement in Distortion Over Conventional Hybrids
- Allows Higher Output Level Operation

**MHW6205**  
**MHW6225**

**550 MHz, 24 V**  
**77 CHANNEL**  
**CATV AMPLIFIERS**



CASE 714-06, STYLE 1

**ABSOLUTE MAXIMUM RATINGS**

Parameters	Symbol	Max	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** ( $V_{CC} = 24$  V,  $T_C = 30^\circ\text{C}$ , 75  $\Omega$  system, unless otherwise noted)

Parameters	Symbol	Min	Max	Unit
Bandwidth	BW	40	550	MHz
Power Gain f = 50 MHz f = 550 MHz	$G_p$	19.5 20.3	20.5 22.5	dB
Power Gain f = 50 MHz f = 550 MHz	$G_p$	21.4 22	22.6 24	dB
Slope (f = 40-550 MHz)	S	0.3	2	dB
Gain Flatness (f = 40-550 MHz, Peak to Valley)	$G_f$	—	0.5 0.6	dB
Input/Output Return Loss (f = 40-550 MHz, $Z_0 = 75 \Omega$ )	IRL/ORL	18	—	dB
Composite Second Order ( $V_{out} = +44$ dBmV/ch, 77 Channels, FM = 541 MHz)	CSO <sub>77</sub>	—	-60 -55	dBc
Cross Modulation ( $V_{out} = +44$ dBmV/ch, 77 Channels, FM = 55 MHz)	XMD <sub>77</sub>	—	-67 -63	dBc
Composite Triple Beat ( $V_{out} = +44$ dBmV/ch, 77 Channels, FM = 547 MHz)	CTB <sub>77</sub>	—	-64 -62	dBc
Noise Figure f = 50 MHz f = 550 MHz f = 550 MHz	NF	—	5 7.5 7	dB
DC Current	$I_{DC}$	390	440	mA

REV 1

MOTOROLA RF DEVICE DATA

MHW6205 MHW6225  
2-165

6367254 0106529 T08