

The RF Line

High Output Doubler

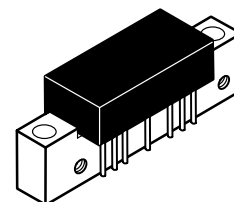
450 MHz CATV Amplifier

... designed specifically for 450 MHz CATV applications. Features ion-implanted arsenic emitter transistors with 6.0 to 8.0 GHz f_T and an all gold metallization system.

- 24 V Supply Voltage
- 4th Generation Die Technology
- Specified for 60-Channel Performance
- Broadband Power Gain — @ $f = 40-450$ MHz
 $G_p = 20$ dB (Typ) @ 50 MHz
 22 dB (Typ) @ 450 MHz
- Broadband Noise Figure
 $NF = 6.5$ dB (Typ)
- Improvement in Distortion Over Conventional Hybrids
- Allows Higher Output Level Operation

MHW5205

20 dB GAIN
450 MHz
60-CHANNEL
CATV AMPLIFIER



CASE 714-06, STYLE 1

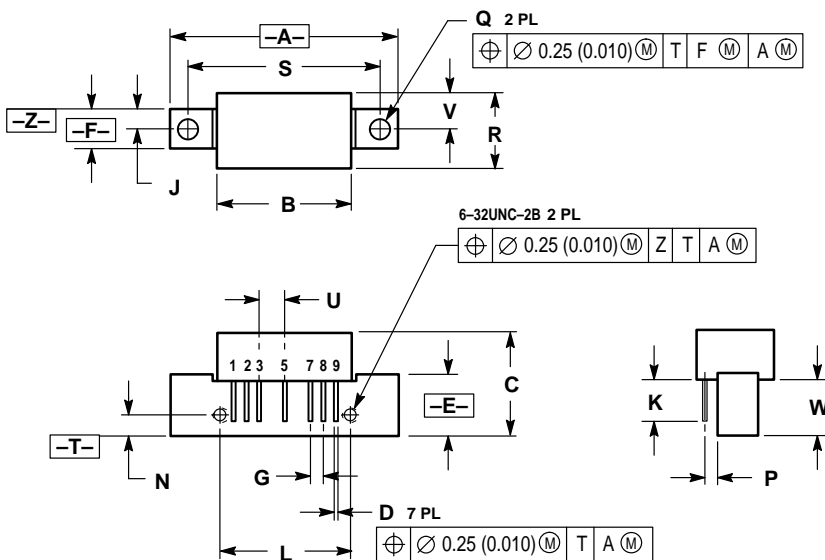
ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+70	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, $T_A = +25^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	450	MHz
Power Gain 50 MHz 450 MHz	G_p	20 21	20.5 21.7	21 23	dB
Slope	S	0.5	—	2.5	dB
Gain Flatness (Peak to Valley)	—	—	—	0.5	dB
Return Loss — Input/Output ($Z_0 = 75$ Ohms) 40-450 MHz	IRL/ORL	18	—	—	dB
Composite Second Order — Intermodulation Distortion ($V_{out} = +46$ dBmV per ch.) 60-Channel FLAT	CSO ₆₀	—	-63	-58	dB
Cross Modulation Distortion ($V_{out} = +46$ dBmV per ch.) 60-Channel FLAT	XMD ₆₀	—	-67	-64	dB
Composite Triple Beat ($V_{out} = +46$ dBmV per ch.) 60-Channel FLAT	CTB ₆₀	—	-65	-64	dB
Noise Figure 50 MHz 450 MHz	NF	— —	4.5 5.5	5.0 6.5	dB
DC Current ($V_{DC} = 24 \pm 0.5$ Vdc, $T_C = 30^\circ\text{C}$)	I_{DC}	—	415	440	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:
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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MOTOROLA

MHW5205/D

