The RF Line

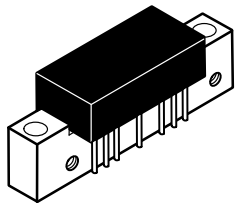
High Output Doubler 450 MHz CATV Amplifier

. . . 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 = 22 dB (Typ) @ 50 MHz
  23 dB (Typ) @ 450 MHz
- Broadband Noise Figure
  NF = 4.5 dB (Typ)
- Improvement in Distortion Over Conventional Hybrids
- Allows Higher Output Level Operation

MHW5225

22 dB GAIN
450 MHz
60-CHANNEL
CATV AMPLIFIER



CASE 714-06, STYLE 1

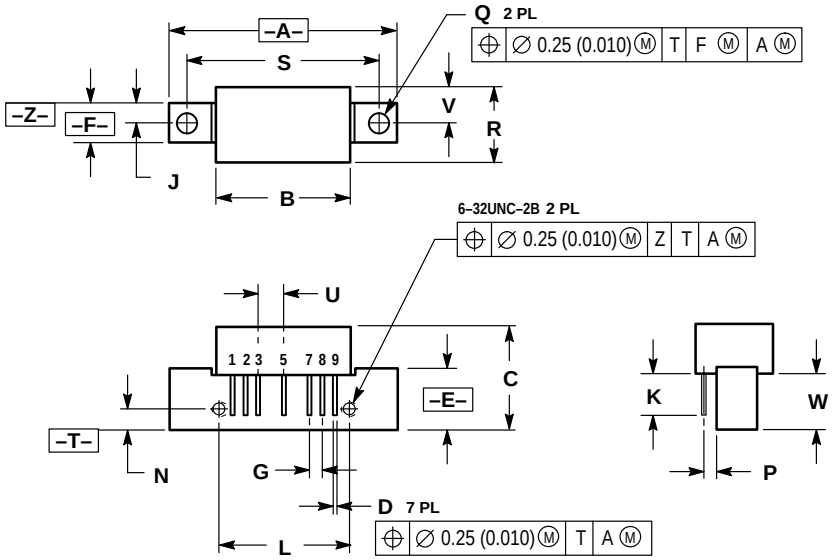
ABSOLUTE MAXIMUM RATINGS

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°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	21.4 22.3	22.0 23.0	22.6 23.7	dB
Slope		S	0.3	1.0	1.8	dB
Gain Flatness (Peak To Valley)		—	—	0.25	0.5	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, M13, M22)		IMD	—	–74	–69	dB
Cross Modulation Distortion (V_{out} = +46 dBmV per ch.)	60–Channel FLAT	XMD_{60}	—	–67	–62	dB
Composite Triple Beat (V_{out} = +46 dBmV per ch.)	60–Channel FLAT	CTB_{60}	—	–65	–62	dB
Noise Figure	450 MHz	NF	—	4.5	6.0	dB
DC Current		I_{DC}	—	415	440	mA

PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
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		4.10 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

Literature Distribution Centers:
USA: Motorola Literature Distribution; P.O. Box 20912; Phoenix, Arizona 85036.
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