The RF Line

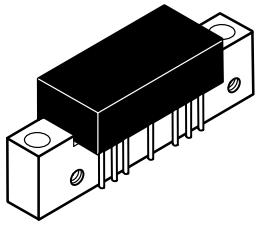
High Output Power Doubler 550 MHz CATV Amplifiers

MHW6205
MHW6225

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

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°C, 75 Ω system, unless otherwise noted)

Parameters		Symbol	Min	Max	Unit
Bandwidth		BW	40	550	MHz
Power Gain f = 50 MHz f = 550 MHz	MHW6205 MHW6205	G_p	19.5 20.3	20.5 22.5	dB
Power Gain f = 50 MHz f = 550 MHz	MHW6225 MHW6225	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)	MHW6205 MHW6225	G_f	— —	0.5 0.6	dB
Input/Output Return Loss (f = 40–550 MHz, Z_O = 75 Ω)		IRL/ORL	18	—	dB
Composite Second Order (V_{out} = +44 dBmV/ch, 77 Channels, FM = 541 MHz)	MHW6205 MHW6225	CSO_{77}	— —	–60 –55	dBc
Cross Modulation (V_{out} = +44 dBmV/ch, 77 Channels, FM = 55 MHz)	MHW6205 MHW6225	XMD_{77}	— —	–67 –63	dBc
Composite Triple Beat (V_{out} = +44 dBmV/ch, 77 Channels, FM = 547 MHz)	MHW6205 MHW6225	CTB_{77}	— —	–64 –62	dBc
Noise Figure f = 50 MHz f = 550 MHz f = 550 MHz	All MHW6205 MHW6225	NF	— — —	5 7.5 7	dB
DC Current		I_{DC}	390	440	mA

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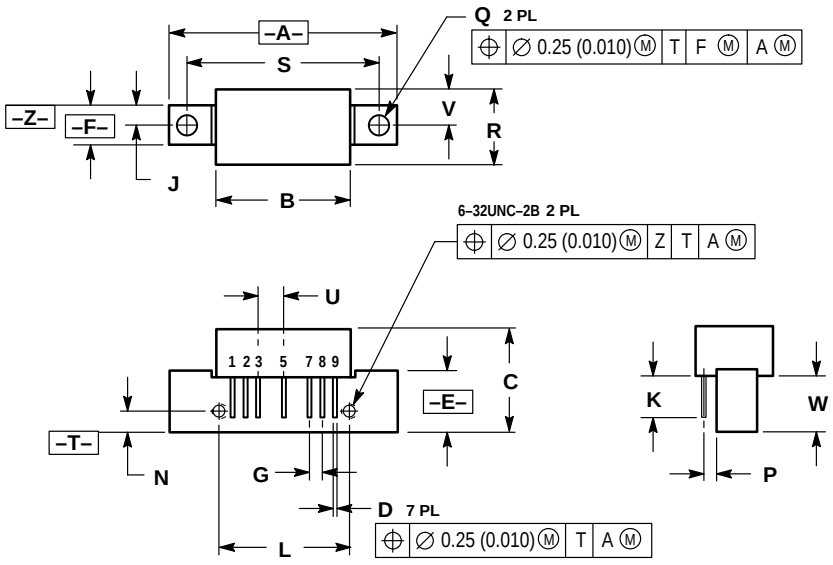
PACKAGE DIMENSIONS



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

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