The RF Line

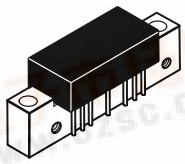
High Output Power Doubler 750 MHz CATV Amplifiers

MHW7185A
MHW7205A

Designed specifically for 750 MHz CATV applications. Features ion–implanted, arsenic emitter transistors with an all gold metallization system.

- Supply Voltage = 24 Vdc
- 6th Generation Die Technology
- Specified for 110 Channel Performance
- Broadband Power Gain @ f = 50 MHz
  Gp = 18 dB Min (MHW7185A)
  Gp = 19.5 dB Min (MHW7205A)
- Broadband Noise Figure @ f = 50 MHz
  NF = 6 dB Max
- Improvement in Distortion Over Conventional Hybrids
- Allows Higher Output Level Operation

750 MHz, 24 Vdc
110 CHANNEL
CATV AMPLIFIERS



CASE 714–06, Style 1

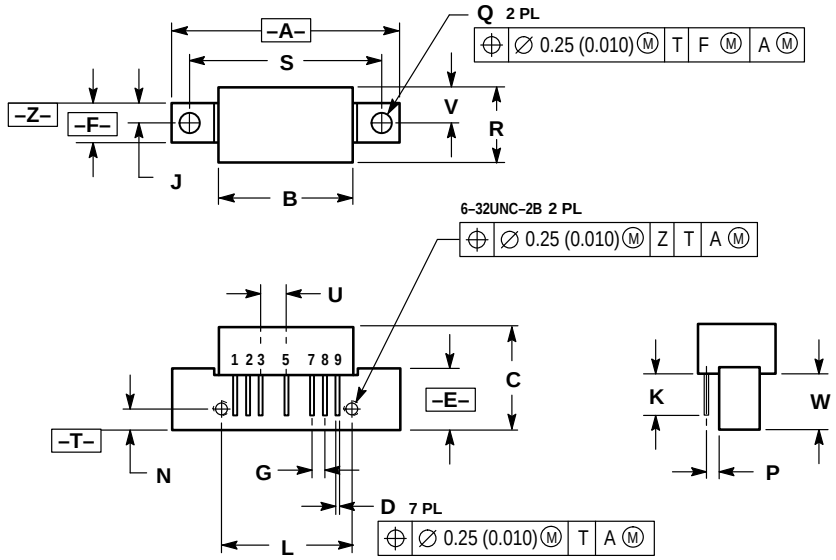
ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	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 +125	°C

ELECTRICAL CHARACTERISTICS (V_{CC} = 24 Vdc, T_C = 30°C, 75 Ω system, unless otherwise noted)

Characteristic			Symbol	Min	Max	Unit
Bandwidth			BW	40	750	MHz
Power Gain	(f = 50 MHz)	MHW7185A MHW7205A	Gp1	18.0 19.5	19.0 20.5	dB
Power Gain	(f = 750 MHz)	MHW7185A MHW7205A	Gp2	18.5 20.0	20.5 21.5	dB
Slope	(f = 40 – 750 MHz)		S	0	2	dB
Gain Flatness	(f = 40 – 750 MHz, Peak to Valley)		G_f	—	1	dB
Return Loss	(f = 40 MHz)		RL	18	—	dB
Return Loss Derate	(f > 40 MHz)		RLD	—	0.007	dB/MHz
Composite Triple Beat	(V_{out} = +44 dBmV/ch, 110 Channels, Worst Case)	MHW7185A MHW7205A	CTB_{110}	— —	–58 –57	dBc
Cross Modulation	(V_{out} = +44 dBmV/ch, 110 Channels, FM = 55 MHz)	MHW7185A MHW7205A	XMD_{110}	—	–65 –64	dBc
Composite Second Order	(V_{out} = +44 dBmV/ch, 110 Channels, Worst Case)	MHW7185A MHW7205A	CSO_{110}	— —	–58 –56	dBc
Noise Figure	(f = 50 MHz)		NF_1	—	6	dB
Noise Figure	(f = 750 MHz)		NF_2	—	8.5	dB
DC Current			IDC	380	460	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

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