

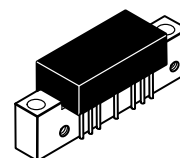
## The RF Line High Output Power Doubler 750 MHz CATV Amplifiers

**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

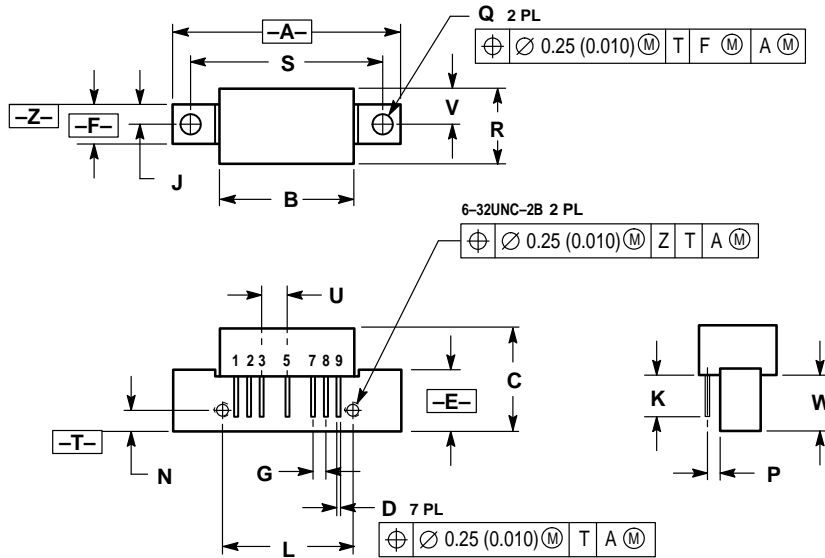
### ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	Unit
DC Supply Voltage	V <sub>CC</sub>	+28	Vdc
RF Input Voltage (Single Tone)	V <sub>IN</sub>	+70	dBmV
Operating Case Temperature Range	T <sub>C</sub>	- 20 to +100	°C
Storage Temperature Range	T <sub>stg</sub>	- 40 to +125	°C

### ELECTRICAL CHARACTERISTICS (V<sub>CC</sub> = 24 Vdc, T<sub>C</sub> = 30°C, 75 Ω system, unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Bandwidth	BW	40	750	MHz
Power Gain (f = 50 MHz)	Gp1	18.0 19.5	19.0 20.5	dB
Power Gain (f = 750 MHz)	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 <sub>f</sub>	—	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 <sub>out</sub> = +44 dBmV/ch, 110 Channels, Worst Case)	CTB <sub>110</sub>	—	-58 -57	dBc
Cross Modulation (V <sub>out</sub> = +44 dBmV/ch, 110 Channels, FM = 55 MHz)	XMD <sub>110</sub>	—	-65 -64	dBc
Composite Second Order (V <sub>out</sub> = +44 dBmV/ch, 110 Channels, Worst Case)	CSO <sub>110</sub>	—	-58 -56	dBc
Noise Figure (f = 50 MHz)	NF <sub>1</sub>	—	6	dB
Noise Figure (f = 750 MHz)	NF <sub>2</sub>	—	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.

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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MHW7185A/D

