

The RF Line

High Output Power Doubler

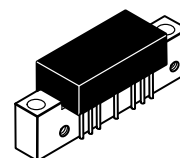
750 MHz CATV Amplifiers

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

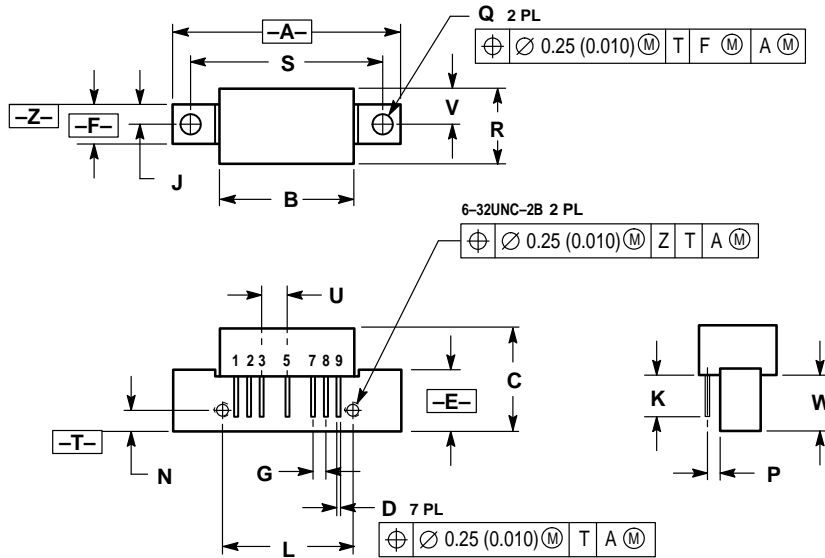
ABSOLUTE MAXIMUM RATINGS

| 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) | 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 _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) | CTB ₁₁₀ | — — | -58 -57 | dBc |
| Cross Modulation (V _{out} = +44 dBmV/ch, 110 Channels, FM = 55 MHz) | XMD ₁₁₀ | — | -65 -64 | dBc |
| Composite Second Order (V _{out} = +44 dBmV/ch, 110 Channels, Worst Case) | 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.

| 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

