

# The RF Line

## High Output Mirror Power Doubler 750 MHz CATV Amplifier

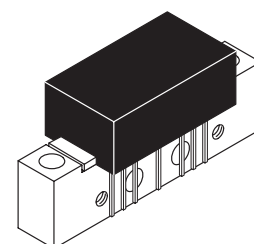
**MHW7205CR**

- Specified for 77 and 110-Channel Performance
- Broadband Power Gain — @  $f = 40\text{--}750\text{ MHz}$   
 $G_p = 20.2\text{ dB (Typ)}$
- Broadband Noise Figure  
 $NF = 6.2\text{ dB (Typ) @ }750\text{ MHz}$
- All Gold Metallization
- 7 GHz  $f_T$  Ion-Implanted Transistors
- Composite Triple Beat — @ 110-Channel Loading  
 $CTB = -63\text{ dB (Typ)}$

**20.2 dB GAIN  
750 MHz  
110-CHANNEL  
CATV AMPLIFIER**

### 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



**CASE 714Y-03, STYLE 2**

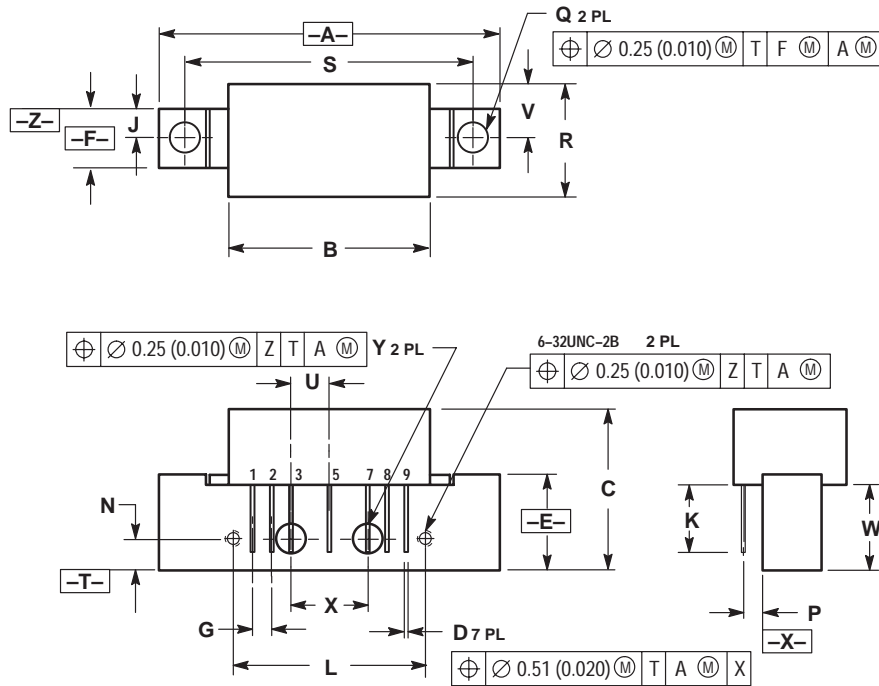
### ELECTRICAL CHARACTERISTICS ( $V_{CC} = 24\text{ Vdc}$ , $T_C = +30^\circ\text{C}$ , 75 $\Omega$ system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain	$G_p$	19.3 20	19.8 20.2	20.3 21	dB
Slope	S	0	0.4	1.0	dB
Gain Flatness (40-750 MHz, Peak to Valley)	—	—	0.3	0.6	dB
Return Loss — Input/Output ( $Z_0 = 75\text{ Ohms}$ )	IRL/ORL	19 —	— —	— 0.006	dB dB/MHz
Composite Second Order ( $V_{out} = +44\text{ dBmV/ch.}$ , Worst Case)	CSO <sub>110</sub> CSO <sub>77</sub>	— —	-70 -80	-63 -68	dBc
Cross Modulation Distortion @ Ch 2 ( $V_{out} = +44\text{ dBmV/ch.}$ , FM = 55 MHz)	XMD <sub>110</sub> XMD <sub>77</sub>	— —	-67 -70	-62 -68	dBc
Composite Triple Beat ( $V_{out} = +44\text{ dBmV/ch.}$ , Worst Case)	CTB <sub>110</sub> CTB <sub>77</sub>	— —	-63 -71	-61 -69	dBc
Noise Figure	NF	— — —	5.0 5.8 6.2	6.0 — 7.5	dB
DC Current ( $V_{DC} = 24\text{ V}$ , $T_C = 30^\circ\text{C}$ )	$I_{DC}$	365	400	435	mA

ARCHIVE INFORMATION

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# 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		4.19 BSC	
P	0.100 BSC		2.54 BSC	
Q	0.148	0.168	3.76	4.27
R	----	0.600	----	15.24
S	1.500 BSC		38.10 BSC	
U	0.200 BSC		5.08 BSC	
V	----	0.250	----	6.35
W	0.435	0.450	11.05	11.43
X	0.400 BSC		10.16 BSC	
Y	0.152	0.163	3.85	4.15

- STYLE 2:  
 PIN 1. RF OUTPUT  
 2. GROUND  
 3. GROUND  
 4. DELETED  
 5. VDC  
 6. DELETED  
 7. GROUND  
 8. GROUND  
 9. RF INPUT

CASE 714Y-03  
 ISSUE D

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