

The RF Line

High Output Mirror Power Doubler

860 MHz CATV Amplifier

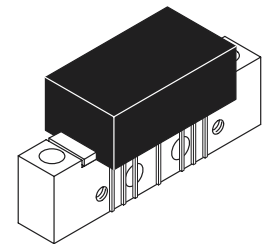
MHW8205R

- Specified for 77, 110 and 128-Channel Performance
- Broadband Power Gain — @ $f = 40\text{--}860\text{ MHz}$
 $G_p = 20.2\text{ dB (Typ)}$
- Broadband Noise Figure
 $NF = 7\text{ dB (Typ)}$ @ 860 MHz
- All Gold Metallization
- 7 GHz f_T Ion-Implanted Transistors
- Composite Triple Beat — @ 128-Channel Loading
 $CTB = -66\text{ dB (Typ)}$

20.2 dB GAIN
860 MHz
128-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



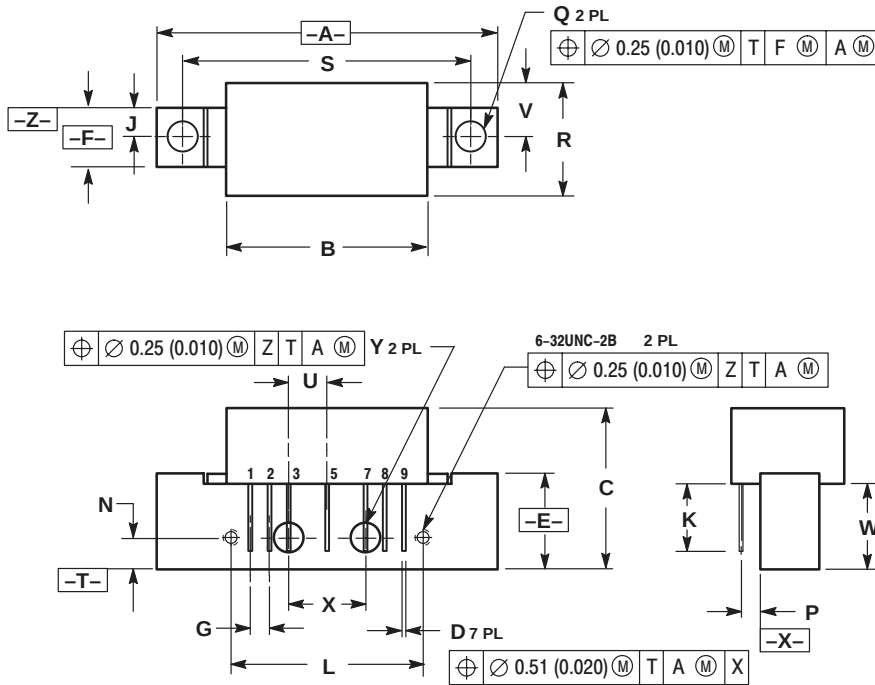
CASE 714Y-03, STYLE 2

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

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	860	MHz
Power Gain 50 MHz 860 MHz	G_p	19.3 20	19.8 20.2	20.3 21.5	dB
Slope 40-860 MHz	S	0	.4	1.5	dB
Gain Flatness (40-860 MHz, Peak to Valley)	—	—	0.3	1.0	dB
Return Loss — Input/Output ($Z_0 = 75\text{ Ohms}$) @ 40 MHz @ $f > 40\text{ MHz}$ (Derate)	IRL/ORL	19 —	— —	— 0.006	dB dB/MHz
Composite Second Order ($V_{out} = +40\text{ dBmV/ch.}$, Worst Case) 128-Channel FLAT ($V_{out} = +44\text{ dBmV/ch.}$, Worst Case) 110-Channel FLAT 77-Channel FLAT	CSO_{128} CSO_{110} CSO_{77}	— — —	-69 -70 -80	-60 -63 -68	dBc
Cross Modulation Distortion @ Ch 2 ($V_{out} = +40\text{ dBmV/ch.}$, FM = 55 MHz) 128-Channel FLAT ($V_{out} = +44\text{ dBmV/ch.}$, FM = 55 MHz) 110-Channel FLAT 77-Channel FLAT	XMD_{128} XMD_{110} XMD_{77}	— — —	-72 -67 -71	-64 -62 -68	dBc
Composite Triple Beat ($V_{out} = +40\text{ dBmV/ch.}$, Worst Case) 128-Channel FLAT ($V_{out} = +44\text{ dBmV/ch.}$, Worst Case) 110-Channel FLAT 77-Channel FLAT	CTB_{128} CTB_{110} CTB_{77}	— — —	-66 -63 -71	-63 -61 -69	dBc
Noise Figure 50 MHz 550 MHz 750 MHz 860 MHz	NF	— — — —	5.0 5.8 6.2 7.0	6.0 — — 8.0	dB
DC Current ($V_{DC} = 24\text{ V}$, $T_C = 30^\circ\text{C}$)	I_{DC}	365	400	435	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		4.19 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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