

# The RF Line

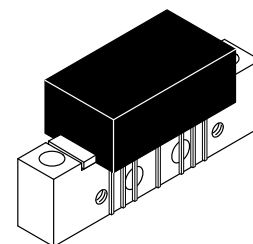
## High Output Power Doubler

### 860 MHz CATV Amplifier

- Specified for 77, 110 and 128-Channel Performance
- Broadband Power Gain — @ f = 40–860 MHz  
G<sub>p</sub> = 20.2 dB (Typ)
- Broadband Noise Figure  
NF = 7 dB (Typ) @ 860 MHz
- All Gold Metallization
- 7 GHz f<sub>T</sub> Ion-Implanted Transistors
- Composite Triple Beat — @ 128-Channel Loading  
CTB = -66 dB (Typ)

**MHW8205**

**20.2 dB GAIN**  
**860 MHz**  
**128-CHANNEL**  
**CATV AMPLIFIER**



**CASE 714Y-03, STYLE 1**

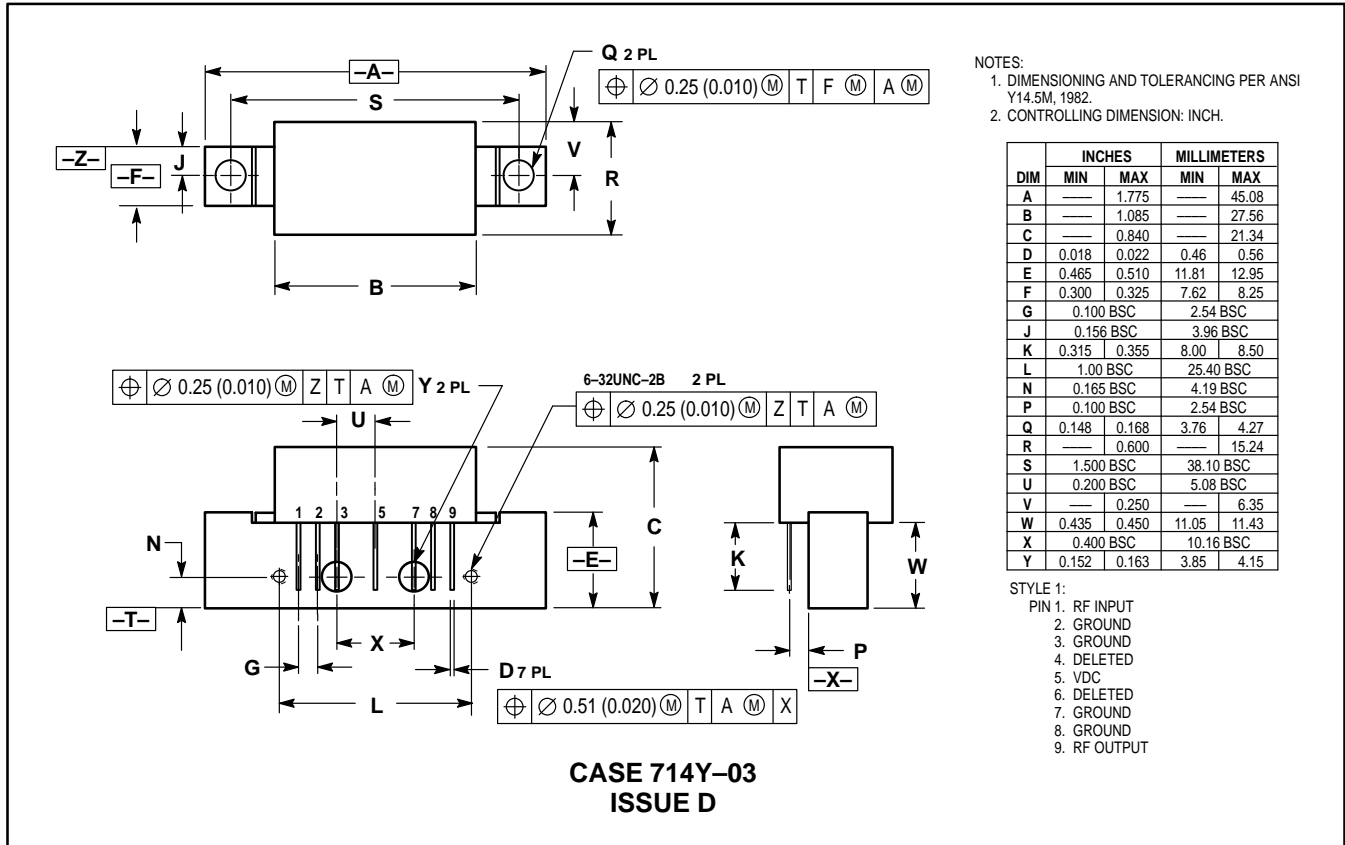
#### MAXIMUM RATINGS

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

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

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	860	MHz
Power Gain	G <sub>p</sub>	19.3	19.8	20.3	dB
		20	20.2	21.5	
Slope	S	0	.4	1.5	dB
Gain Flatness (40–860 MHz, Peak to Valley)	—	—	0.3	1.0	dB
Return Loss — Input/Output (Z <sub>0</sub> = 75 Ohms)	IRL/ORL				
@ 40 MHz		19	—	—	dB
@ f > 40 MHz (Derate)		—	—	0.006	dB/MHz
Composite Second Order					dBc
(V <sub>out</sub> = +40 dBmV/ch., Worst Case)	128-Channel FLAT	CSO <sub>128</sub>	—	-69	-60
(V <sub>out</sub> = +44 dBmV/ch., Worst Case)	110-Channel FLAT	CSO <sub>110</sub>	—	-70	—
	77-Channel FLAT	CSO <sub>77</sub>	—	-80	—
Cross Modulation Distortion @ Ch 2					dBc
(V <sub>out</sub> = +40 dBmV/ch., FM = 55 MHz)	128-Channel FLAT	XMD <sub>128</sub>	—	-72	-64
(V <sub>out</sub> = +44 dBmV/ch., FM = 55 MHz)	110-Channel FLAT	XMD <sub>110</sub>	—	-65	—
	77-Channel FLAT	XMD <sub>77</sub>	—	-69	—
Composite Triple Beat					dBc
(V <sub>out</sub> = +40 dBmV/ch., Worst Case)	128-Channel FLAT	CTB <sub>128</sub>	—	-66	-63
(V <sub>out</sub> = +44 dBmV/ch., Worst Case)	110-Channel FLAT	CTB <sub>110</sub>	—	-63	—
	77-Channel FLAT	CTB <sub>77</sub>	—	-70	—
Noise Figure	NF	—	5.0	6.0	dB
		—	5.8	—	
		—	6.2	—	
		—	7.0	8.0	
DC Current (V <sub>DC</sub> = 24 V, T <sub>C</sub> = 30°C)	I <sub>DC</sub>	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 1:  
 PIN 1. RF INPUT  
 2. GROUND  
 3. GROUND  
 4. DELETED  
 5. VDC  
 6. DELETED  
 7. GROUND  
 8. GROUND  
 9. RF OUTPUT

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