

The RF Line

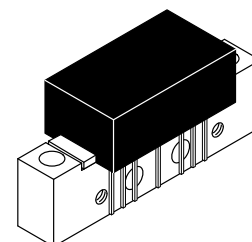
High Output Power Doubler

860 MHz CATV Amplifier

- 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
 $CTB = -66\text{ dB (Typ)}$

MHW8205

20.2 dB GAIN
860 MHz
128-CHANNEL
CATV AMPLIFIER



CASE 714Y-03, STYLE 1

MAXIMUM RATINGS

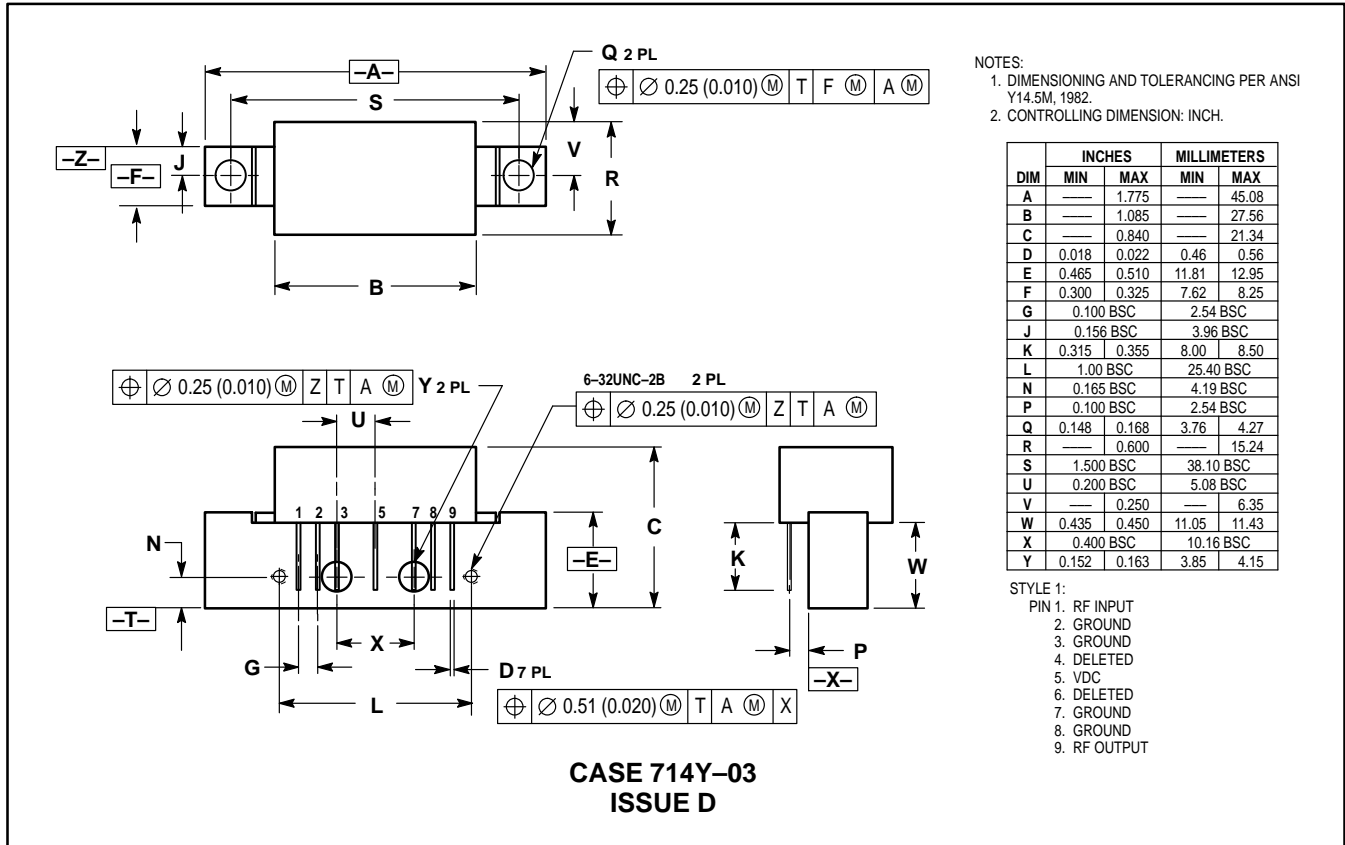
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+70	dBmV
DC Supply Voltage	V_{CC}	+28	Vdc
Operating Case Temperature Range	T_C	-20 to +100	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

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	G_p	50 MHz	19.3	19.8	20.3	dB
		860 MHz	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 ($Z_0 = 75\text{ Ohms}$)	IRL/ORL	@ 40 MHz	19	—	—	dB
		@ $f > 40\text{ MHz}$ (Derate)	—	—	0.006	dB/MHz
Composite Second Order					dBc	
($V_{out} = +40\text{ dBmV/ch.}$, Worst Case)		128-Channel FLAT	CSO ₁₂₈	—	-69	-60
($V_{out} = +44\text{ dBmV/ch.}$, Worst Case)		110-Channel FLAT	CSO ₁₁₀	—	-70	—
		77-Channel FLAT	CSO ₇₇	—	-80	—
Cross Modulation Distortion @ Ch 2					dBc	
($V_{out} = +40\text{ dBmV/ch.}$, FM = 55 MHz)		128-Channel FLAT	XMD ₁₂₈	—	-72	-64
($V_{out} = +44\text{ dBmV/ch.}$, FM = 55 MHz)		110-Channel FLAT	XMD ₁₁₀	—	-65	—
		77-Channel FLAT	XMD ₇₇	—	-69	—
Composite Triple Beat					dBc	
($V_{out} = +40\text{ dBmV/ch.}$, Worst Case)		128-Channel FLAT	CTB ₁₂₈	—	-66	-63
($V_{out} = +44\text{ dBmV/ch.}$, Worst Case)		110-Channel FLAT	CTB ₁₁₀	—	-63	—
		77-Channel FLAT	CTB ₇₇	—	-70	—
Noise Figure	NF	50 MHz	—	5.0	6.0	dB
		550 MHz	—	5.8	—	
		750 MHz	—	6.2	—	
		860 MHz	—	7.0	8.0	
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 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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