

The RF Line

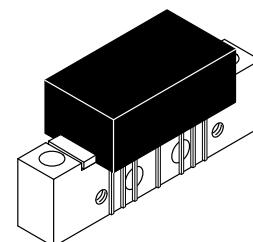
High Output Power Doubler

750 MHz CATV Amplifier

- 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
 $CTB = -63\text{ dB (Typ)}$

MHW7205C

20.2 dB GAIN
750 MHz
110-CHANNEL
CATV AMPLIFIER



CASE 714Y-03, STYLE 1

MAXIMUM RATINGS

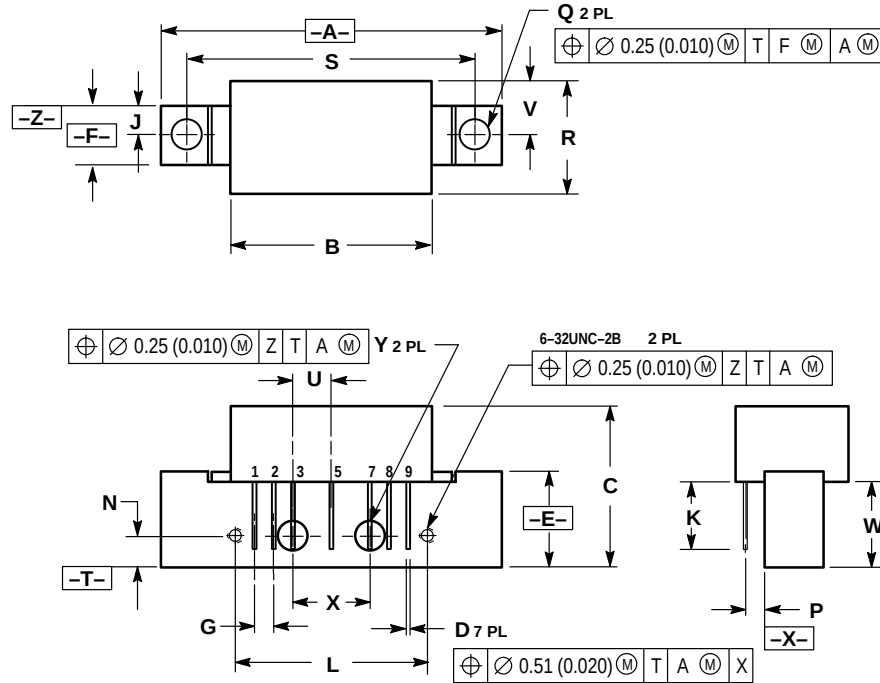
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+70	dBmV
DC Supply Voltage	V_{CC}	+28	Vdc
Operating Case Temperature Range	T_C	-20 to +100	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

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	—	750	MHz
Power Gain 50 MHz 750 MHz	G_p	19.3 20	19.8 20.2	20.3 21	dB
Slope 40–750 MHz	S	0	0.4	1.0	dB
Gain Flatness (40–750 MHz, Peak to Valley)	—	—	0.3	0.6	dB
Return Loss — Input/Output ($Z_0 = 75\text{ Ohms}$) @ 40 MHz @ $f > 40\text{ MHz}$ (Derate)	IRL/ORL	19 —	— —	— 0.006	dB dB/MHz
Composite Second Order ($V_{out} = +44\text{ dBmV/ch.}$, Worst Case) 110-Channel FLAT 77-Channel FLAT	CSO_{110} CSO_{77}	— —	-70 -80	-63 —	dBc
Cross Modulation Distortion @ Ch 2 ($V_{out} = +44\text{ dBmV/ch.}$, FM = 55 MHz) 110-Channel FLAT 77-Channel FLAT	XMD_{110} XMD_{77}	— —	-65 -69	-62 —	dBc
Composite Triple Beat ($V_{out} = +44\text{ dBmV/ch.}$, Worst Case) 110-Channel FLAT 77-Channel FLAT	CTB_{110} CTB_{77}	— —	-63 -70	-61 —	dBc
Noise Figure 50 MHz 550 MHz 750 MHz	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



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
 - GROUND
 - GROUND
 - DELETED
 - VDC
 - DELETED
 - GROUND
 - GROUND
 - RF OUTPUT

**CASE 714Y-03
ISSUE D**

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