The RF Line
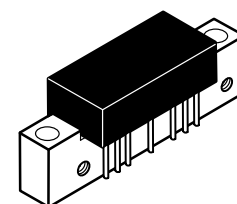# High Output Doubler
600 MHz CATV Amplifier

- 24 V Supply Voltage
- Specified for 87–Channel Performance
- 6th Generation Die Technology
- Improvement in Distortion Over Conventional Hybrids
- Allows Higher Output Level Operation
- All Gold Metallization
- 7 GHz f_T Ion–Implanted Transistors

MHW6205-6A

20 dB GAIN
600 MHz
**87–CHANNEL**
CATV AMPLIFIER

CASE 714–06, STYLE 1

ABSOLUTE 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 Vdc, T_A = +30°C, 75 Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	40	—	600	MHz
Power Gain	50 MHz 600 MHz	G_p	19.5 19.8	20 20.1	20.5 21.5	dB
Slope	40 – 600 MHz	S	0	0.2	1.5	dB
Gain Flatness (40 – 600 MHz, Peak to Valley)		—	—	0.3	0.6	dB
Return Loss — Input/Output (Z_O = 75 Ohms) 40 – 600 MHz		IRL/ORL	18	—	—	dB
Composite Second Order — Intermodulation Distortion (V_{out} = +44 dBmV/ch., Worst Case) 87–Channel FLAT		CSO_{87}	—	−65	−63	dBc
Cross Modulation Distortion (V_{out} = +44 dBmV/ch., FM = 55 MHz) 87–Channel FLAT		XMD_{87}	—	−67	−65	dBc
Composite Triple Beat (V_{out} = +44 dBmV/ch., Worst Case) 87–Channel FLAT		CTB_{87}	—	−68	−63	dBc
Noise Figure	50 MHz 600 MHz	NF	— —	4.5 5.5	5.5 6.5	dB
DC Current (V_{DC} = 24 ±0.5 Vdc, T_C = 30°C)		I_{DC}	380	435	460	mA

MOTOROLA

PACKAGE DIMENSIONS
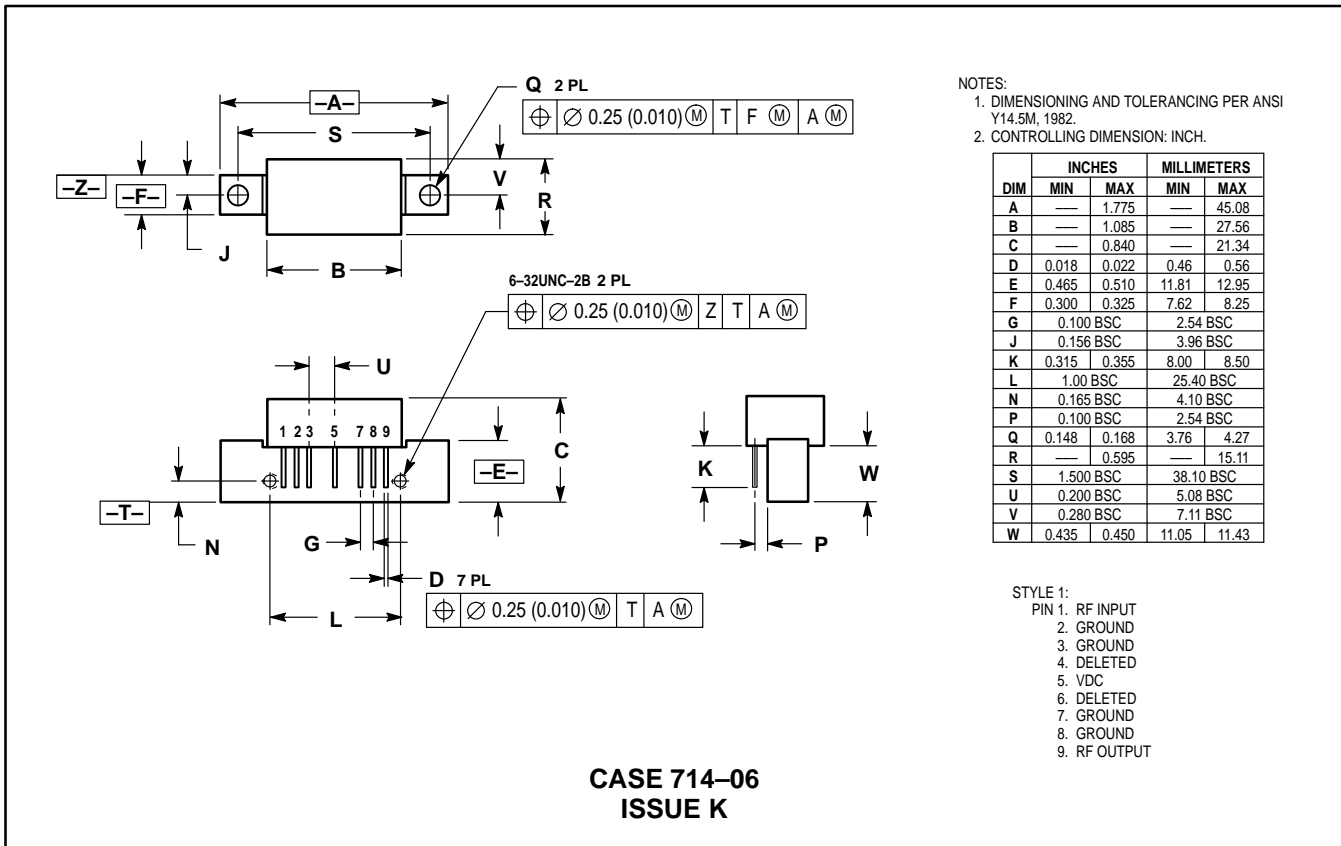
NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

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		4.10 BSC	
P	0.100 BSC		2.54 BSC	
Q	0.148	0.168	3.76	4.27
R	—	0.595	—	15.11
S	1.500 BSC		38.10 BSC	
U	0.200 BSC		5.08 BSC	
V	0.280 BSC		7.11 BSC	
W	0.435	0.450	11.05	11.43

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

CASE 714–06
ISSUE K

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