

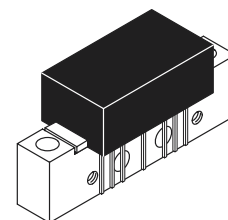
## The RF Line 550 MHz CATV Amplifier

. . . designed specifically for 550 MHz CATV applications. Features ion-implanted arsenic emitter transistors with 7.0 GHz  $f_T$  and an all gold metallization system.

- Specified for 77-Channel Performance
- Broadband Power Gain — @  $f = 40\text{--}550$  MHz  
 $G_p = 22$  dB (Typ) @ 50 MHz  
 $22$  dB (Min) @ 550 MHz
- Broadband Noise Figure @ 550 MHz  
 $NF = 6.0$  dB (Max)
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7.0 GHz Ion-Implanted Transistors

**MHW6222**

**22 dB GAIN**  
**550 MHz**  
**77-CHANNEL**  
**CATV INPUT/OUTPUT**  
**TRUNK AMPLIFIER**



CASE 714Y-03, STYLE 1

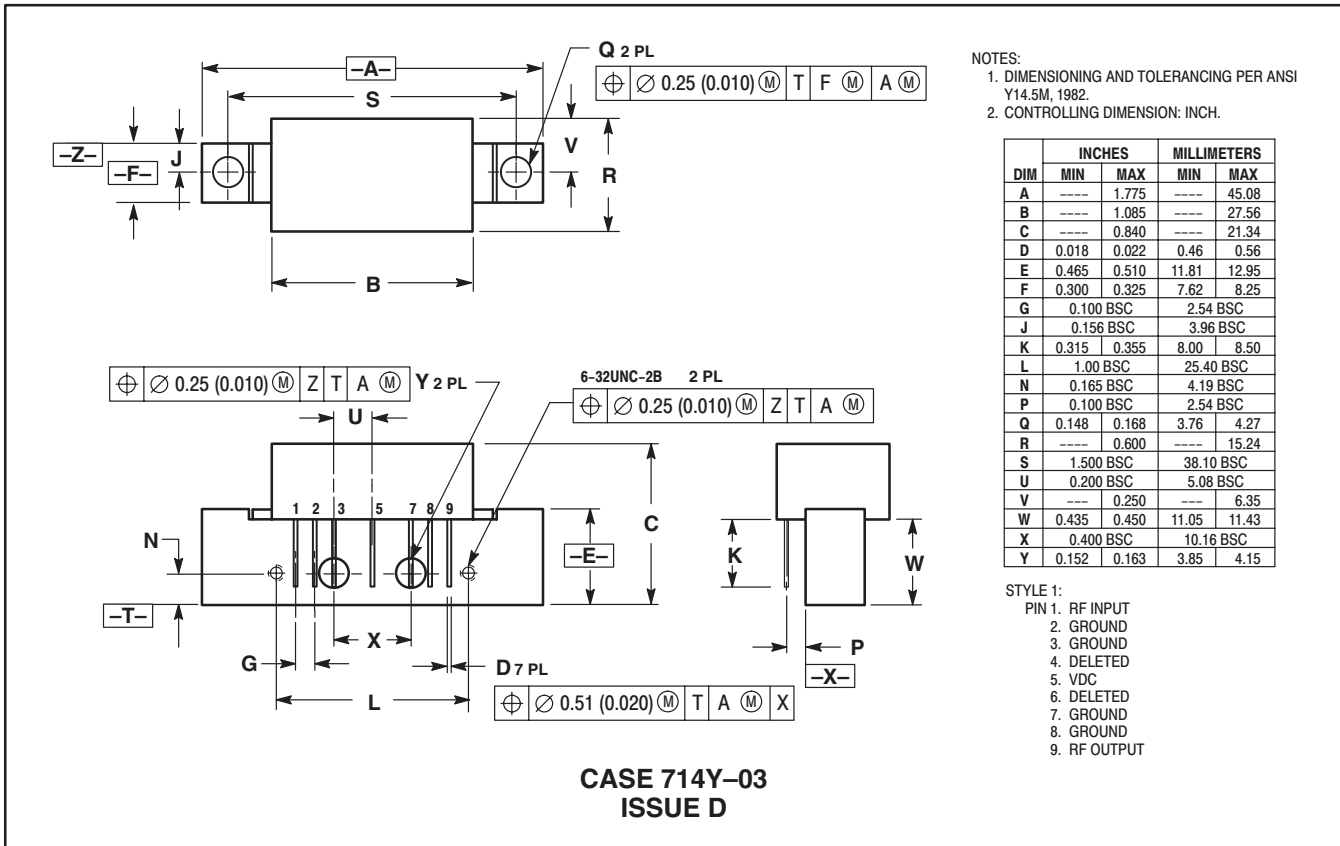
### ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	$V_{in}$	+60	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, $T_C = +30^\circ\text{C}$ , 75 $\Omega$ system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	550	MHz
Power Gain — 50 MHz	$G_p$	21.4	22	22.6	dB
Power Gain — 550 MHz	$G_p$	22	—	—	dB
Slope	S	0.2	—	1.5	dB
Gain Flatness (Peak To Valley)	—	—	0.2	0.4	dB
Return Loss — Input/Output ( $Z_0 = 75$ Ohms) 40–550 MHz	IRL/ORL	18	—	—	dB
Second Order Intermodulation Distortion ( $V_{out} = +46$ dBmV per ch., Ch 2, M13, M22) ( $V_{out} = +44$ dBmV per ch., Ch 2, M30, M39)	IMD	—	-80 -72	— -66	dB
Cross Modulation Distortion ( $V_{out} = +46$ dBmV per ch.) 60-Channel FLAT ( $V_{out} = +44$ dBmV per ch.) 77-Channel FLAT	XMD <sub>60</sub> XMD <sub>77</sub>	—	-60 -60	— -57	dB
Composite Triple Beat ( $V_{out} = +46$ dBmV per ch.) 60-Channel FLAT ( $V_{out} = +44$ dBmV per ch.) 77-Channel FLAT	CTB <sub>60</sub> CTB <sub>77</sub>	—	-61 -59	— -57	dB
Noise Figure ( $f = 550$ MHz)	NF	—	5.0	6.0	dB
DC Current	$I_{DC}$	—	210	240	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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