

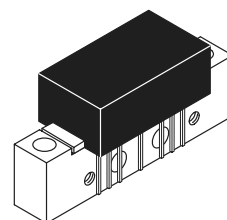
The RF Line 550 MHz CATV Amplifier

. . . 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
 $G_p = 18.2$ dB (Typ) @ 50 MHz
 18.8 dB (Min) @ 550 MHz
- Broadband Noise Figure @ 550 MHz
 $NF = 7.0$ dB (Max)
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7.0 GHz Ion-Implanted Transistors

MHW6182

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



CASE 714Y-03, STYLE 1

ABSOLUTE MAXIMUM RATINGS

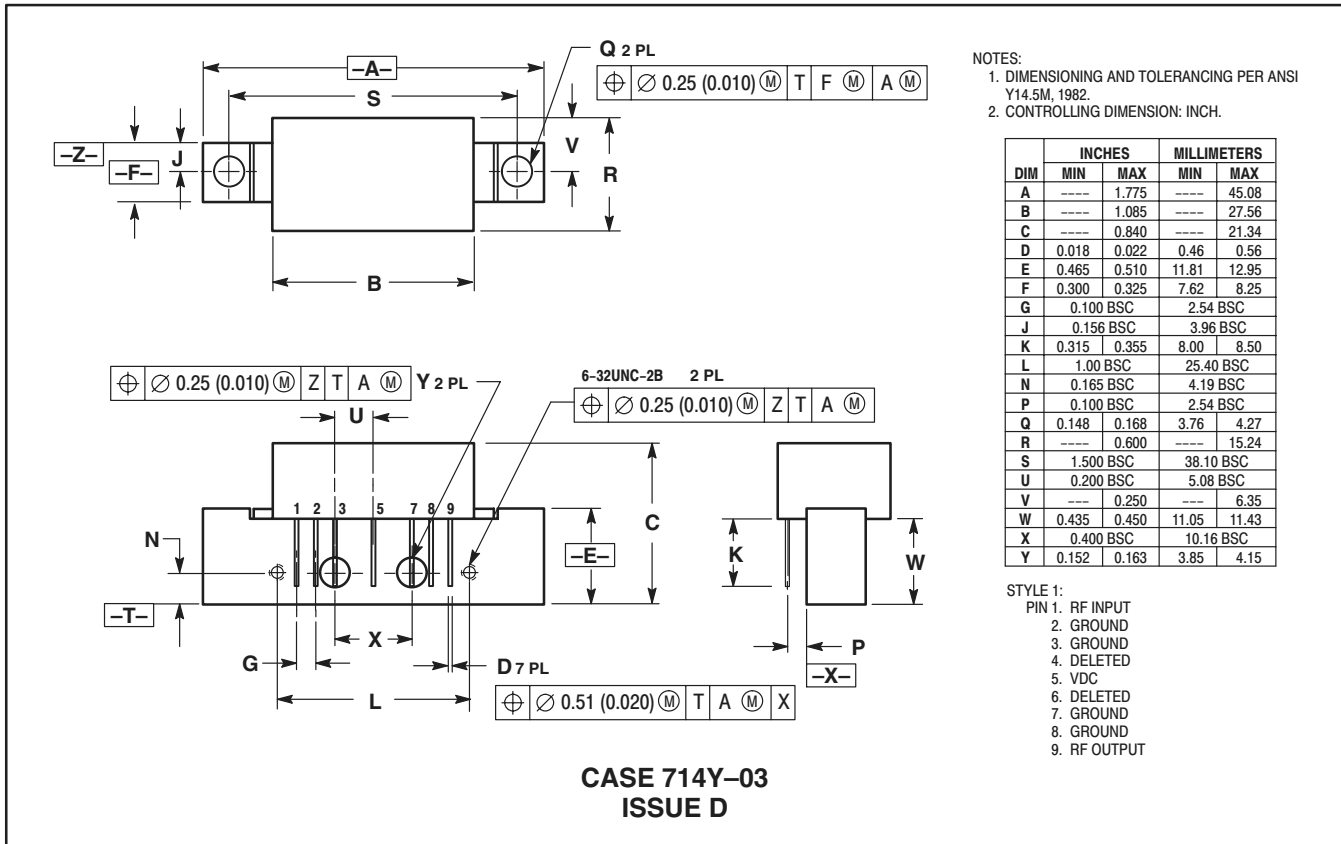
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+70	dBmV
DC Supply Voltage	V_{CC}	+28	Vdc
Operating Case Temperature Range	T_C	-20 to +100	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

ELECTRICAL CHARACTERISTICS ($V_{CC} = 24$ Vdc, $T_C = +30^\circ\text{C}$, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	550	MHz
Power Gain — 50 MHz	G_p	17.7	18.2	18.7	dB
Power Gain — 550 MHz	G_p	18.8	19.2	20	dB
Slope	S	0.5	—	2.5	dB
Gain Flatness (Peak To Valley)	—	—	0.2	0.5	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	—	-85 -80	— -72	dB
Cross Modulation Distortion ($V_{out} = +46$ dBmV per ch.) ($V_{out} = +44$ dBmV per ch.)	60-Channel FLAT 77-Channel FLAT XMD ₆₀ XMD ₇₇	—	-61 -64	— -62	dB
Composite Triple Beat ($V_{out} = +46$ dBmV per ch.) ($V_{out} = +44$ dBmV per ch.)	60-Channel FLAT 77-Channel FLAT CTB ₆₀ CTB ₇₇	—	-62 -60	— -58	dB
Noise Figure ($f = 550$ MHz)	NF	—	—	7.0	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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