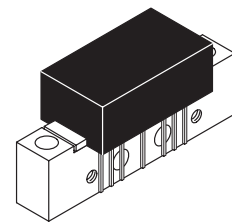


The RF Line 152-Channel (1000 MHz) CATV Line Extender Amplifier

MHW9242A

- Specified for 152-Channel Performance
- Broadband Power Gain — @ $f = 40\text{--}1000$ MHz
 $G_p = 24$ dB
- Broadband Noise Figure
NF = 8 dB (Max) @ 1000 MHz
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7 GHz f_T Ion-Implanted Transistors

**1000 MHz
24 dB GAIN
152-CHANNEL
CATV AMPLIFIER**



CASE 714Y-03, STYLE 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+55	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)

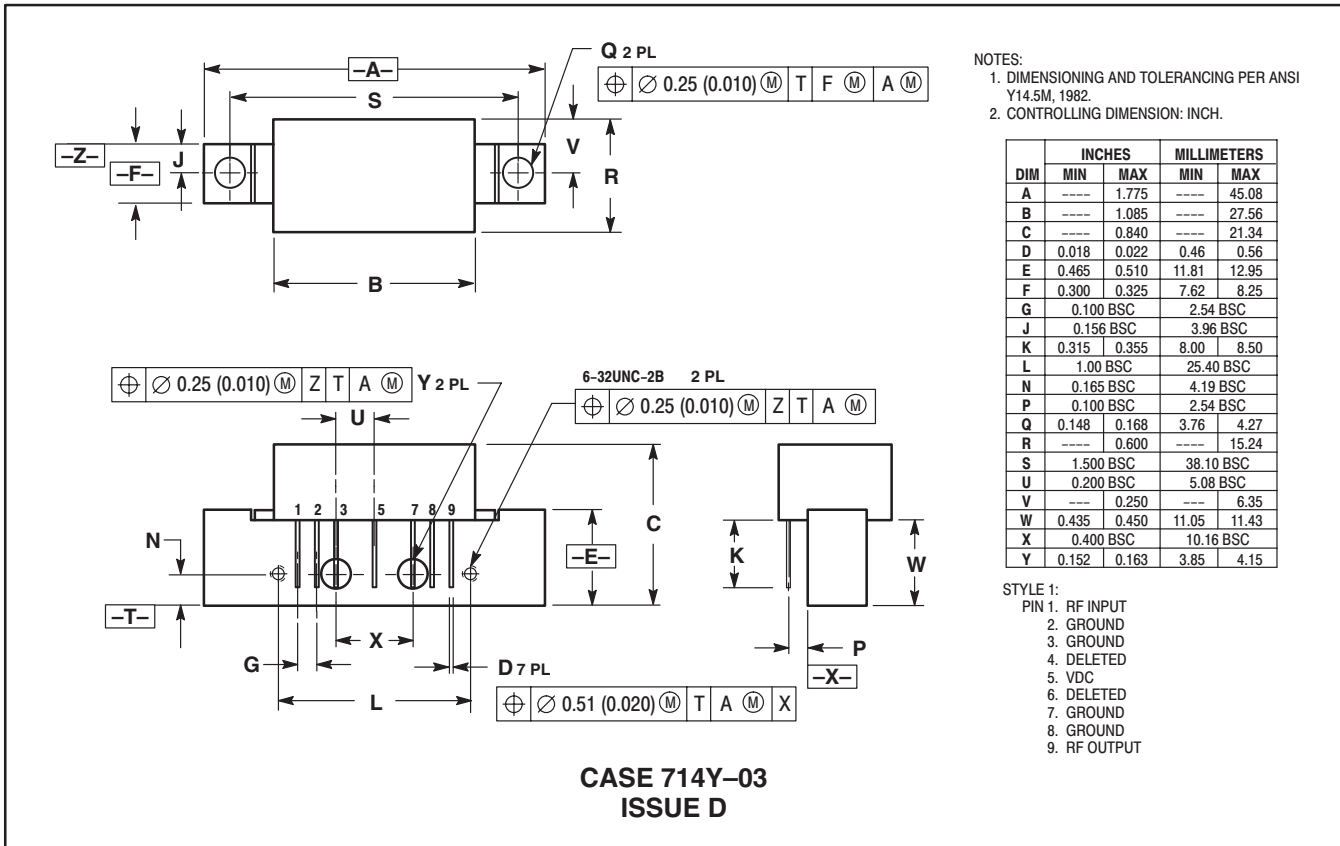
Characteristic	Symbol	Min	Typ	Max	Unit	
Frequency Range	BW	40	—	1000	MHz	
Power Gain 50 MHz 1000 MHz	G_p	23.2 24	— —	24.8 26	dB	
Slope 40-1000 MHz	S	0	—	2.5	dB	
Gain Flatness (40-1000 MHz, Peak-to-Valley)	—	—	—	1.0	dB	
Return Loss — Input/Output ($Z_o = 75$ Ohms) @ $f > 40$ MHz (Derate)	IRL/ORL	20 —	— —	— 0.01	dB dB/MHz	
Composite Second Order ($V_{out} = +38$ dBmV/ch; Worst Case) ($V_{out} = +38$ dBmV/ch; Worst Case) ($V_{out} = +40$ dBmV/ch; Worst Case) ($V_{out} = +44$ dBmV/ch; Worst Case)	152-Channel FLAT 128-Channel FLAT 110-Channel FLAT 77-Channel FLAT	CSO_{152} CSO_{128} CSO_{110} CSO_{77}	— — — —	-66 -69 -69 -78	-61 — — —	dBc
Cross Modulation Distortion @ Ch 2 ($V_{out} = +38$ dBmV/ch., FM = 55 MHz) ($V_{out} = +38$ dBmV/ch, FM = 55.25 MHz) ($V_{out} = +40$ dBmV/ch, FM = 55.25 MHz) ($V_{out} = +44$ dBmV/ch, FM = 55.25 MHz)	152-Channel FLAT 128-Channel FLAT 110-Channel FLAT 77-Channel FLAT	XMD_{152} XMD_{128} XMD_{110} XMD_{77}	— — — —	-62 -65 -63 -58	-59 — — —	dBc

ELECTRICAL CHARACTERISTICS — continued

Characteristic	Symbol	Min	Typ	Max	Unit	
Composite Triple Beat ($V_{out} = +38$ dBmV/ch., Worst Case) 152–Channel FLAT	CTB_{152}	—	–64	–58	dBc	
($V_{out} = +38$ dBmV/ch, Worst Case) 128–Channel FLAT	CTB_{128}	—	–68	—		
($V_{out} = +40$ dBmV/ch, Worst Case) 110–Channel FLAT	CTB_{110}	—	–67	—		
($V_{out} = +44$ dBmV/ch, Worst Case) 77–Channel FLAT	CTB_{77}	—	–64	—		
Noise Figure	NF	f = 50 MHz	—	4.8	5.5	dB
		f = 750 MHz	—	5.5	7.0	
		f = 860 MHz	—	5.8	7.5	
		f = 1000 MHz	—	—	8.0	
DC Current	I_{DC}	280	318	350	mA	

NOTES


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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