

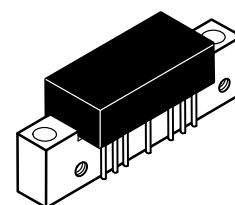
The RF Line

152-Channel (1000 MHz) CATV Line Extender Amplifier

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

MHW9242

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



CASE 714-06, STYLE 1

MAXIMUM RATINGS

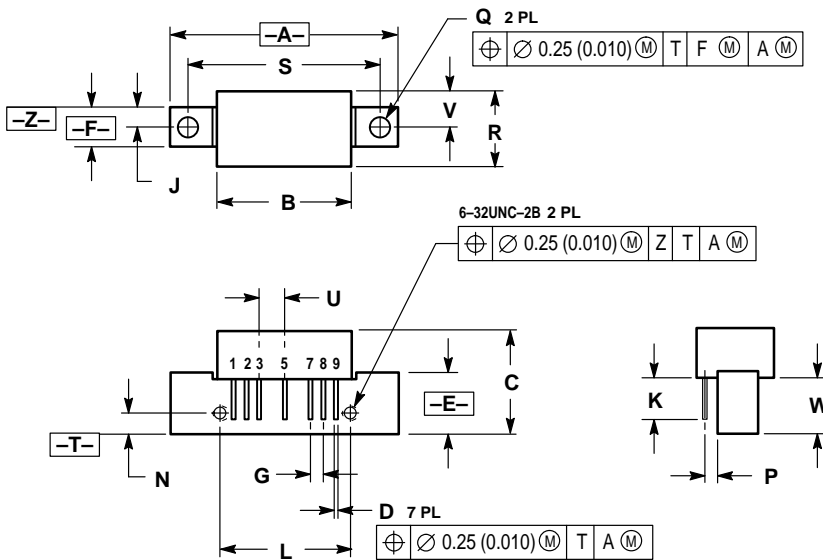
Rating	Symbol	Value	Unit
RF Voltage Input (Single Tone)	V_{in}	+55	dBmV
DC Supply Voltage	V_{CC}	+28	Vdc
Operating Case Temperature Range	T_C	-20 to +100	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

ELECTRICAL CHARACTERISTICS ($V_{CC} = 24\text{ Vdc}$, $T_C = +30^\circ\text{C}$, $75\ \Omega$ 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 25	24.8 27	dB
Slope 40–1000 MHz	S	0	1	2.5	dB
Gain Flatness (40–1000 MHz, Peak-to-Valley)	—	—	0.5	1.0	dB
Return Loss — Input/Output ($Z_0 = 75\text{ Ohms}$) @ 40 MHz @ $f > 40\text{ MHz}$ (Derate)	IRL/ORL	20 —	— —	— 0.01	dB dB/MHz
Composite Second Order ($V_{out} = +38\text{ dBmV/ch.}$, Worst Case)	CSO_{152}	—	-65	-59	dBc
Cross Modulation Distortion @ Ch 2 ($V_{out} = +38\text{ dBmV/ch.}$, FM = 55 MHz) 152-Channel FLAT	XMD_{152}	—	-64	-59	dBc
Composite Triple Beat ($V_{out} = +38\text{ dBmV/ch.}$, Worst Case) 152-Channel FLAT	CTB_{152}	—	-61	-58	dBc
Noise Figure 50 MHz 1000 MHz	NF	— —	-5.0 -7.0	5.5 8.0	dB
DC Current	I_{DC}	280	320	350	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	4.10 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
- GROUND
- GROUND
- DELETED
- VDC
- DELETED
- GROUND
- GROUND
- RF OUTPUT

**CASE 714-06
ISSUE K**

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MOTOROLA

MHW9242/D

