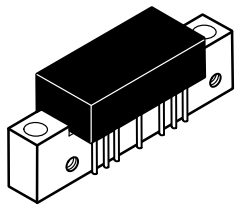
The RF Line

152-Channel (1000 MHz) CATV Line Extender Amplifier

MHW9242

- Specified for 152–Channel Performance
- Broadband Power Gain — @ f = 40–1000 MHz
  G_p = 24 dB (Typ)
- 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

24 dB GAIN
1000 MHz
152–CHANNEL
CATV AMPLIFIER



CASE 714–06, STYLE 1

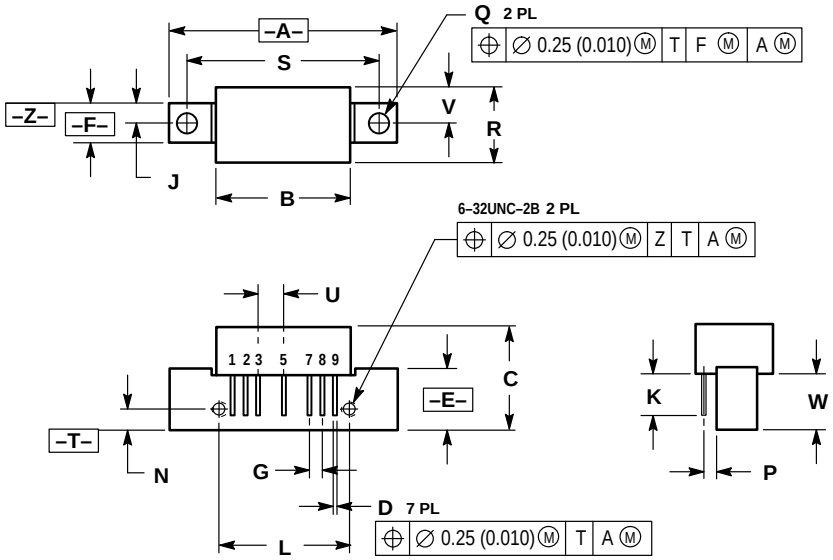
MAXIMUM RATINGS

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 Vdc, T_C = +30°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 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 Ohms)	@ 40 MHz @ f > 40 MHz (Derate)	IRL/ORL	20 —	— —	— 0.01	dB dB/MHz
Composite Second Order (V_{out} = +38 dBmV/ch., Worst Case)		CSO_{152}	—	–65	–59	dBc
Cross Modulation Distortion @ Ch 2 (V_{out} = +38 dBmV/ch., FM = 55 MHz)	152–Channel FLAT	XMD_{152}	—	–64	–59	dBc
Composite Triple Beat (V_{out} = +38 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.

	INCHES		MILLIMETERS	
DIM	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

How to reach us:
USA / EUROPE: Motorola Literature Distribution;
P.O. Box 20912; Phoenix, Arizona 85036. 1–800–441–2447

MFAX: RMFAX0@email.sps.mot.com – TOUCHTONE (602) 244–6609
INTERNET: http://Design–NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi–SPD–JLDC, Toshikatsu Otsuki,
6F Seibu–Butsuryu–Center, 3–14–2 Tatsumi Koto–Ku, Tokyo 135, Japan. 03–3521–8315

HONG KONG: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852–26629298