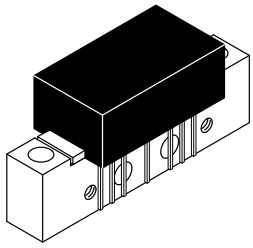
The RF Line

128-Channel (860 MHz) CATV Line Extender Amplifier

MHW8242A

- Specified for 128–Channel Performance
- Broadband Power Gain — @ f = 40–860 MHz
  G_p = 24 dB (Typ)
- Broadband Noise Figure
  NF = 7.5 dB (Max) @ 860 MHz
- Superior Gain, Return Loss and DC Current Stability with Temperature
- All Gold Metallization
- 7 GHz f_T Ion–Implanted Transistors
- Improved CTB Performance

24 dB GAIN
860 MHz
128–CHANNEL
CATV AMPLIFIER



CASE 714Y–03, STYLE 1

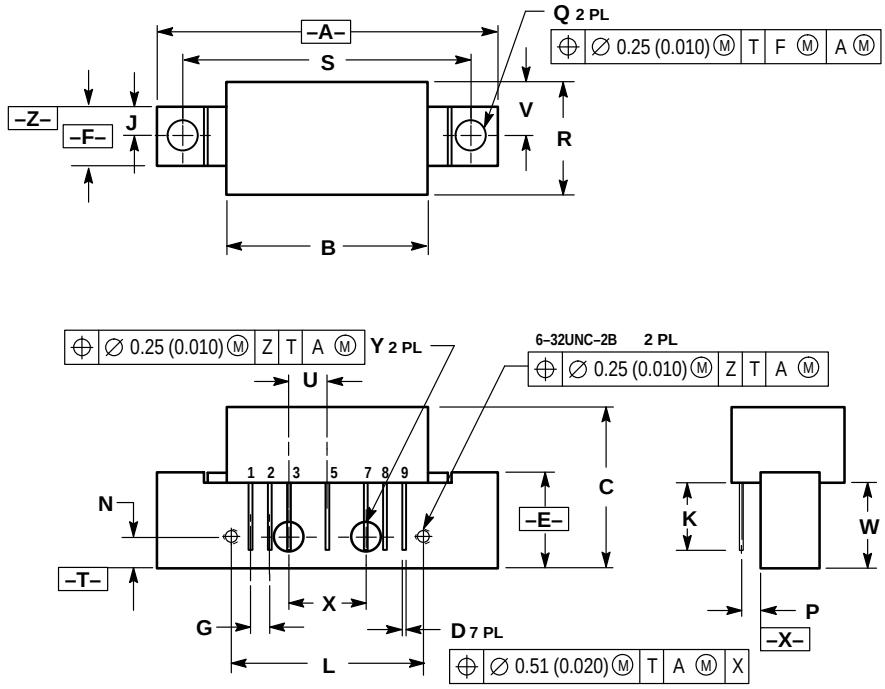
MAXIMUM RATINGS

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°C, 75 Ω system unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	40	—	860	MHz
Power Gain	50 MHz 860 MHz	G_p	23.2 24	24 25	24.8 26	dB
Slope	40–860 MHz	S	0	0.8	1.8	dB
Gain Flatness (40–860 MHz, Peak To Valley)		—	—	0.4	0.8	dB
Return Loss — Input/Output (Z_0 = 75 Ohms)	@ 40 MHz @ f > 40 MHz (Derate)	IRL/ORL	20 —	— —	— 0.007	dB dB/MHz
Composite Second Order (V_{out} = +38 dBmV/ch., Worst Case) (V_{out} = +44 dBmV/ch., Worst Case)	 128–Channel FLAT 77–Channel FLAT	 CSO_{128} CSO_{77}	 — —	 –69 –78	 –62 —	dBc
Cross Modulation Distortion @ Ch 2 (V_{out} = +38 dBmV/ch., FM = 55 MHz) (V_{out} = +44 dBmV/ch., FM = 55 MHz)	 128–Channel FLAT 77–Channel FLAT	 XMD_{128} XMD_{77}	 — —	 –65 –58	 –62 —	dBc
Composite Triple Beat (V_{out} = +38 dBmV/ch., Worst Case) (V_{out} = +44 dBmV/ch., Worst Case)	 128–Channel FLAT 77–Channel FLAT	 CTB_{128} CTB_{77}	 — —	 –68 –64	 –64 —	dBc
Noise Figure	50 MHz 860 MHz	NF	— —	4.8 5.8	5.5 7.5	dB
DC Current		I_{DC}	280	318	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		4.19 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

CASE 714Y–03
ISSUE D

How to reach us:
USA / EUROPE / Locations Not Listed: Motorola Literature Distribution;
P.O. Box 5405, Denver, Colorado 80217. 1–303–675–2140 or 1–800–441–2447

JAPAN: Nippon Motorola Ltd.: SPD, Strategic Planning Office, 4–32–1, Nishi–Gotanda, Shinagawa–ku, Tokyo 141, Japan. 81–3–5487–8488

Customer Focus Center: 1–800–521–6274

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 1–602–244–6609
Motorola Fax Back System – US & Canada ONLY 1–800–774–1848
– http://sps.motorola.com/mfax/

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

HOME PAGE: http://motorola.com/sps/