The RF Line

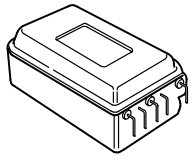
450 MHz CATV Feedforward Amplifier

MFF124B

Designed for broadband applications requiring low–distortion amplification. Specifically intended for CATV market requirements. Two hybrid amplifiers along with couplers and delay lines are packaged together to provide extremely low distortion products at conventional CATV amplifier output levels.

- Specifically Designed to Provide Improved Performance in 450 MHz CATV Applications
- Distortion Components Reduced more than 20 dB from Conventional CATV Hybrid Amplifiers
- Specified for 60–Channel Performance
- Fully Shielded Metal Package

24 dB
40 – 450 MHz
60–CHANNEL
CATV
FEEDFORWARD
AMPLIFIER



CASE 825A–03, STYLE 2

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

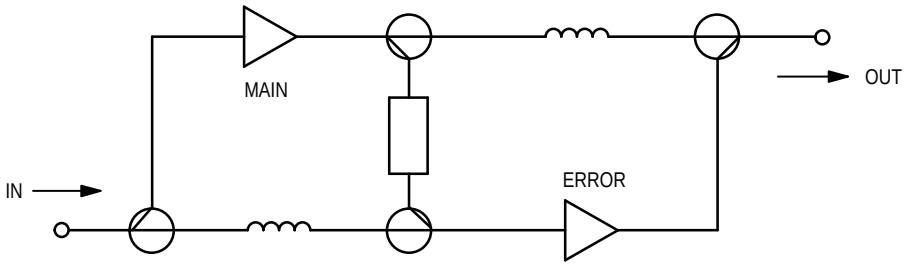
ELECTRICAL CHARACTERISTICS (V_{CC} = 24 V, T_C = 50°C, 75 Ω system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	550	MHz
Power Gain — 50 MHz	G_P	23.4	24	24.6	dB
Slope	S	+0.2	—	+1.4	dB
Gain Flatness	—	—	—	±0.2	dB
Return Loss — Input (f = 40–450 MHz)	IRL	18	—	—	dB
Return Loss — Output (f = 40–450 MHz)	ORL	18	—	—	dB
Second Order Intermodulation Distortion (V_{out} = +50 dBmV per ch., ch. A, H2, H22)	IMD	—	—	–80	dB
Cross Modulation Distortion (V_{out} = 46 dBmV per ch., ch. 2, 60–channels) (V_{out} = 46 dBmV per ch., ch. 2, ——, H22)	XMD_{60}	— —	–80 —	— –75	dB
Composite Triple Beat (V_{out} = 46 dBmV per ch., ch. 2, 60–channels) (V_{out} = 46 dBmV per ch., ch. 2, ——, H22)	CTB	— —	–85 —	— –79	dB
Noise Figure (f = 50 MHz) (f = 450 MHz)	NF	— —	— —	9 10	dB
DC Current	I_{DC}	—	660	725	mA

PERFORMANCE DERATE versus TEMPERATURE (TYP)

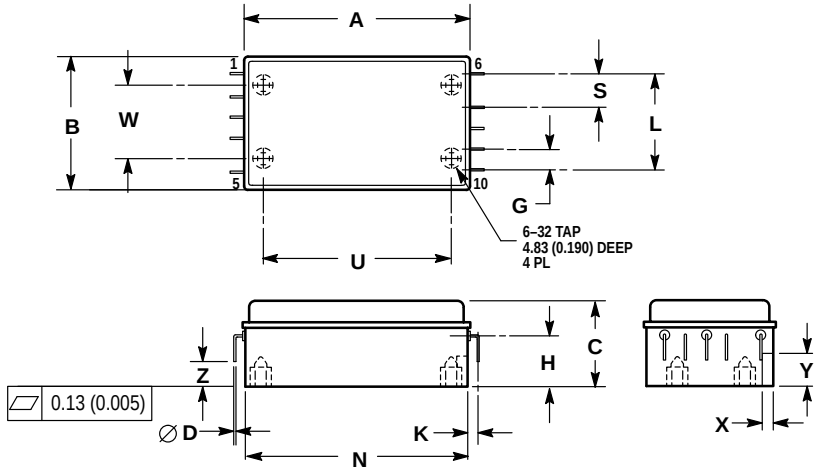
Symbol	Characteristics	Test Conditions	–20 +80°C	–20 +100°C
G	Gain	50 MHz	±0.5 dB	±0.6 dB

CIRCUITRY BLOCK DIAGRAM



PERFORMANCE MEASUREMENT
Motorola test fixture: P/N MFF124BTF is necessary for accurate measurement.

PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	2.107	2.165	53.52	55.00
B	1.225	1.265	31.12	32.13
C	0.805	0.845	20.45	21.46
D	0.018	0.022	0.46	0.56
G	0.190	0.210	4.83	5.33
H	0.490	0.510	12.45	12.95
K	0.100	0.120	2.54	3.05
L	0.910	0.930	23.12	23.62
N	2.053	2.083	52.15	52.90
S	0.310	0.330	7.87	8.38
U	1.785	1.815	45.34	46.10
W	0.690	0.710	17.53	18.03
X	0.090	0.110	2.29	2.79
Y	0.290	0.310	7.37	7.87
Z	0.230	0.270	5.84	6.86

STYLE 2:
PIN 1. 24 V
2. GROUND
3. INPUT
4. GROUND
5. N/C
6. N/C
7. GROUND
8. OUTPUT
9. GROUND
10. 24 V

CASE 825A–03
ISSUE C

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