The RF Line

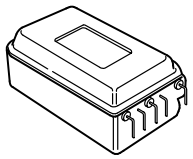
750 MHz CATV Feedforward Amplifier

MFF424B

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 750 MHz CATV Applications
- Distortion Components Reduced more than 20 dB from Conventional CATV Hybrid Amplifiers
- Specified for 110 Channel Performance
- Fully Shielded Metal Package

24 dB
40 – 750 MHz
110 CHANNEL
CATV
FEEDFORWARD
AMPLIFIER



CASE 825A–03, STYLE 2

MAXIMUM RATINGS

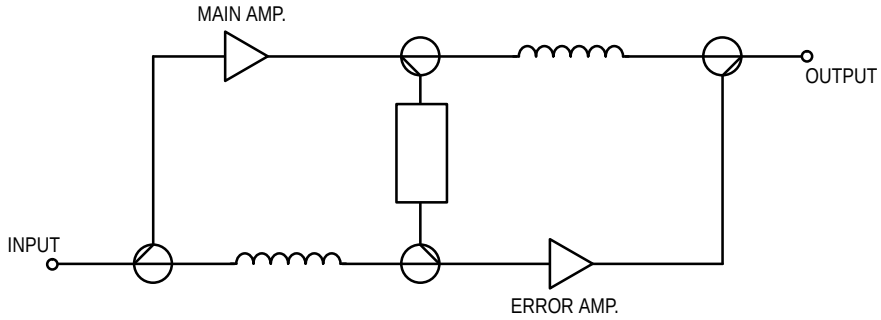
Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	28	V
RF Input Power	P_{in}	+55	dBmV
Storage Temperature Range	T_{stg}	–40 to +100	°C
Operating Case Temperature Range	T_C	–20 to +100	°C

ELECTRICAL CHARACTERISTICS (T_C = 50°C, V_{CC} = 24 V, 75 Ω System)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	750	MHz
Power Gain — 50 MHz	G_p	23.4	24	24.6	dB
Slope	S	+0.4	+0.9	+1.4	dB
Gain Flatness	—	—	—	±0.3	dB
Return Loss — Input	IRL	18	—	—	dB
Return Loss — Output	ORL	18	—	—	dB
Composite Triple Beat (V_{out} = +44 dBmV at ch. 2 to ch. M73) (9 dB Up slope, V_{out} = +46 dBmV at ch. M73)	 CTB_{110} flat CTB_{110} slope	 — —	 — –68	 –65 —	dB
Composite Second Order Beat (V_{out} = +44 dBmV at ch. 2 to ch. M73) (9 dB Up slope, V_{out} = +46 dBmV at ch. M73)	 CSO_{110} flat CSO_{110} slope	 — —	 — –70	 –70 —	dB
Noise Figure (f = 50 MHz) (f = 750 MHz)	NF	—	—	9.0 13.0	dB
DC Current	I_{DC}	—	660	725	mA

PERFORMANCE DERATE versus TEMPERATURE (TYP)

Symbol	Characteristic	Test Conditions	–20 + 80°C	–20 + 100°C
ΔG_p	Change in Gain w/Temp.	50 MHz	±0.5 dB	±0.6 dB

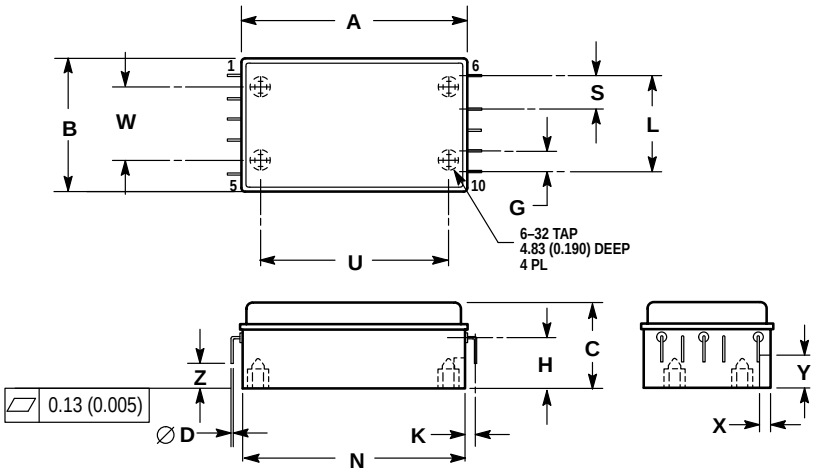


PERFORMANCE MEASUREMENT

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

Figure 1. Block Diagram of Circuit

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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