The RF Line

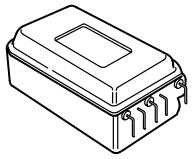
860 MHz CATV Feedforward Amplifier

MFF524B

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 860 MHz CATV Applications
- Distortion Components Reduced more than 20 dB from Conventional CATV Hybrid Amplifiers
- Specified for 128 Channel Performance
- Fully Shielded Metal Package

24 dB
40 – 860 MHz
128 CHANNEL
CATV FEEDFORWARD
AMPLIFIER



CASE 825A–03, STYLE 2

MAXIMUM RATINGS

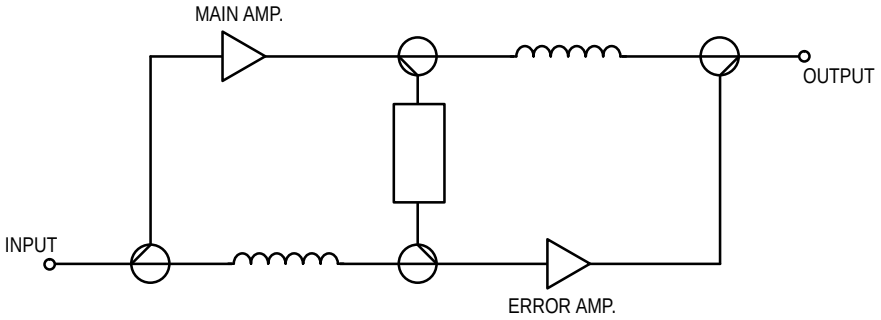
Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	28	V
RF Input Power	P_{in}	+55	dBmV
Storage Temperature Range	T_{stg}	–40 to +100	°C
Operating Case Temperature Range	T_C	–20 to +100	°C

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

Characteristic		Symbol	Min	Typ	Max	Unit
Frequency Range		BW	40	—	860	MHz
Power Gain — 50 MHz		G_p	23.4	24	24.6	dB
Slope		S	+0.4	+1	+1.6	dB
Gain Flatness		—	—	—	±0.3	dB
Return Loss — Input	f = 50 – 750 MHz f = 750 – 860 MHz	IRL	18 16	— —	— —	dB
Return Loss — Output	f = 50 – 750 MHz f = 750 – 860 MHz	ORL	18 16	— —	— —	dB
Composite Triple Beat (1) (V_{out} = +44 dBmV at ch. 2, 55.25 MHz to ch. M90, 853.25 MHz)		CTB_{128} flat	—	–70	–66	dB
Composite Second Order Beat (1) (V_{out} = +44 dBmV at ch. 2, 55.25 MHz to ch. M90, 853.25 MHz)		CSO_{128} flat	—	–73	–68	dB
DIN45004B (See Figure 2)		DIN	—	130	—	dBμV
Noise Figure (f = 50 MHz) (f = 860 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 FF124BTF is necessary for accurate measurement.

Figure 1. Block Diagram of Circuit

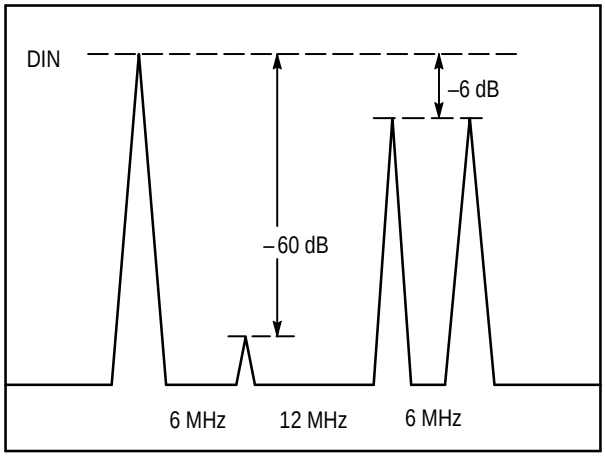
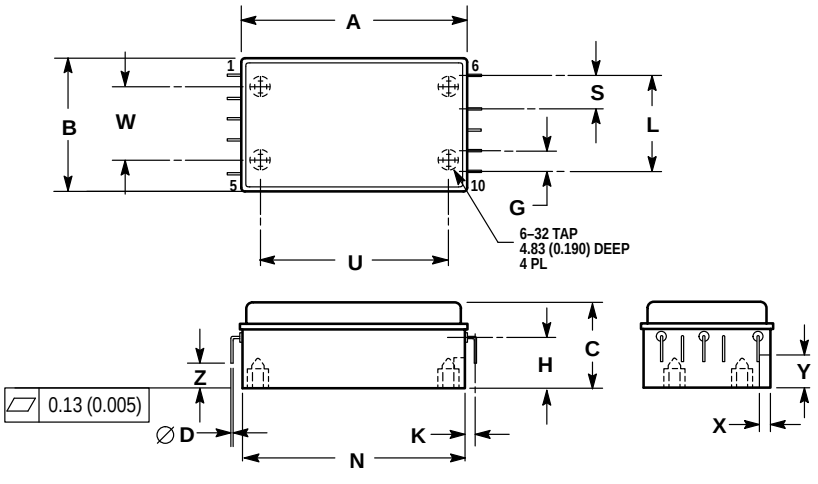


Figure 2. DIN45004B Test

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

How to reach us:

USA / EUROPE / Locations Not Listed: Motorola Literature Distribution; P.O. Box 20912; Phoenix, Arizona 85036. 1–800–441–2447 or 602–303–5454

MFAX: RMFAX0@email.sps.mot.com – TOUCHTONE 602–244–6609

INTERNET: http://Design–NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi–SPD–JLDC, 6F Seibu–Butsuryu–Center, 3–14–2 Tatsumi Koto–Ku, Tokyo 135, Japan. 03–81–3521–8315

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