

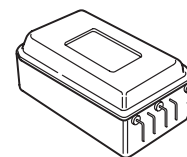
The RF Line 550 MHz CATV Feedforward Amplifier

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 550 MHz CATV Applications
- Distortion Components Reduced more than 20 dB from Conventional CATV Hybrid Amplifiers
- Specified for 77-Channel Performance
- Fully Shielded Metal Package

MFF224B

24 dB
40–550 MHz
77-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, $T_C = 50^\circ\text{C}$, 75 Ω system unless otherwise noted)

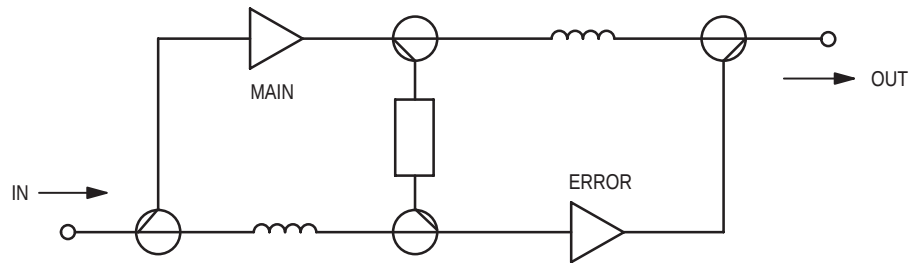
Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	550	MHz
Power Gain — 50 MHz	G_p	23.4	24	24.6	dB
Slope	S	+0.2	—	+1.8	dB
Gain Flatness	—	—	—	± 0.25	dB
Return Loss — Input ($f = 40$ –550 MHz)	IRL	18	—	—	dB
Return Loss — Output ($f = 40$ –550 MHz)	ORL	18	—	—	dB
Second Order Intermodulation Distortion ($V_{out} = +50$ dBmV per ch., ch. A, H2, H22)	IMD	—	—	–80	dB
Cross Modulation Distortion ($V_{out} = 44$ dBmV per ch., ch. 2, 77-channels) ($V_{out} = 44$ dBmV per ch., ch. 2, —, H39)	XMD ₇₇	— —	–80 —	— –70	dB
Composite Triple Beat ($V_{out} = 44$ dBmV per ch., ch. 2, 77-channels) ($V_{out} = 44$ dBmV per ch., ch. 2, —, H39)	CTB	— —	–85 —	— –75	dB
Noise Figure ($f = 50$ MHz) ($f = 550$ MHz)	NF	— —	— —	9 11	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

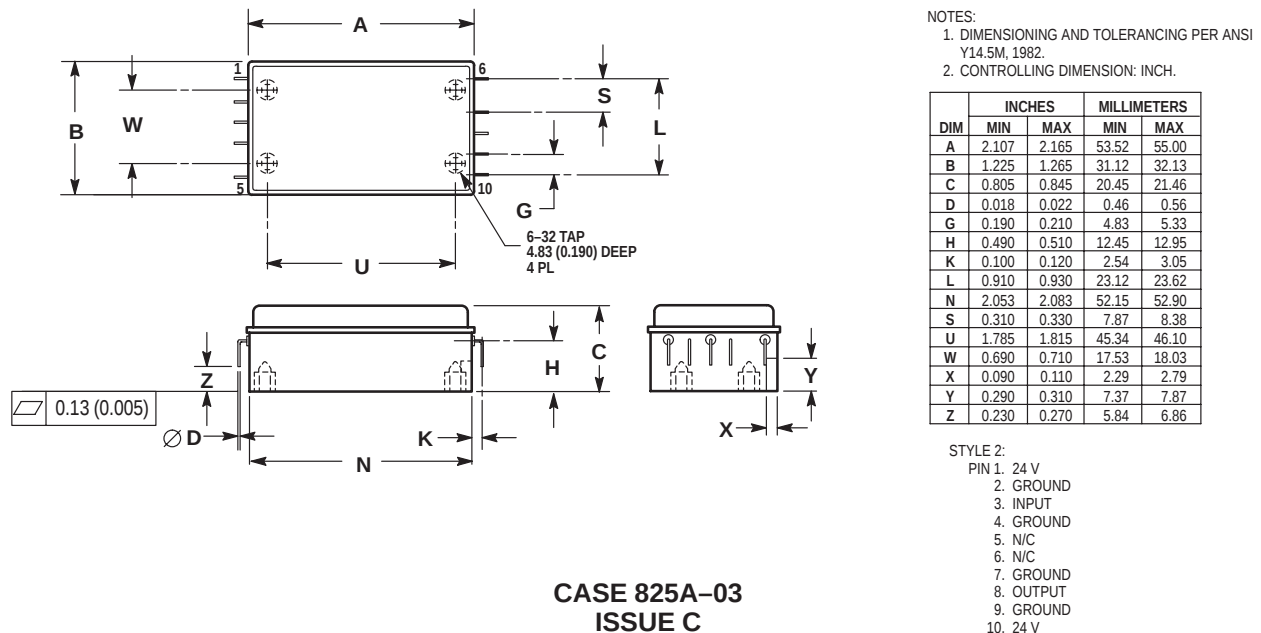
CIRCUITRY BLOCK DIAGRAM



PERFORMANCE MEASUREMENT

Motorola test fixture: P/N FF124BTF is necessary for accurate measurement.

PACKAGE DIMENSIONS



Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Motorola data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

Mfax is a trademark of Motorola, Inc.

How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 5405, Denver, Colorado 80217. 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

Mfax™: RMFAX0@email.sps.mot.com - TOUCHTONE 602-244-6609
- US & Canada ONLY 1-800-774-1848

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

INTERNET: <http://motorola.com/sps>

