

The RF Line

550 MHz CATV

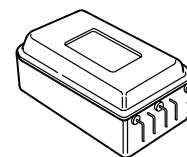
Feedforward Amplifier

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)

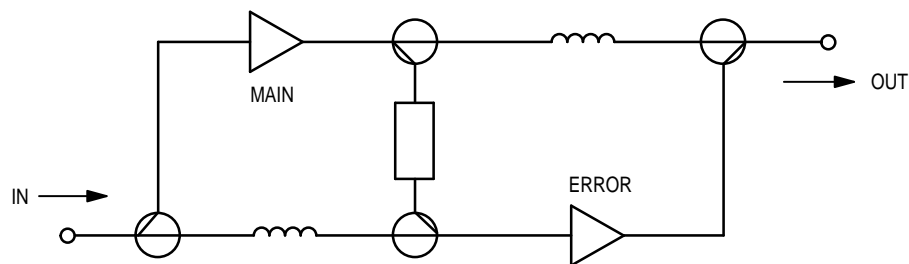
Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	550	MHz
Power Gain — 50 MHz	G_p	23.4	24	24.6	dB
Slope	S	+0.2	—	+1.8	dB
Gain Flatness	—	—	—	± 0.25	dB
Return Loss — Input ($f = 40$ –550 MHz)	IRL	18	—	—	dB
Return Loss — Output ($f = 40$ –550 MHz)	ORL	18	—	—	dB
Second Order Intermodulation 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

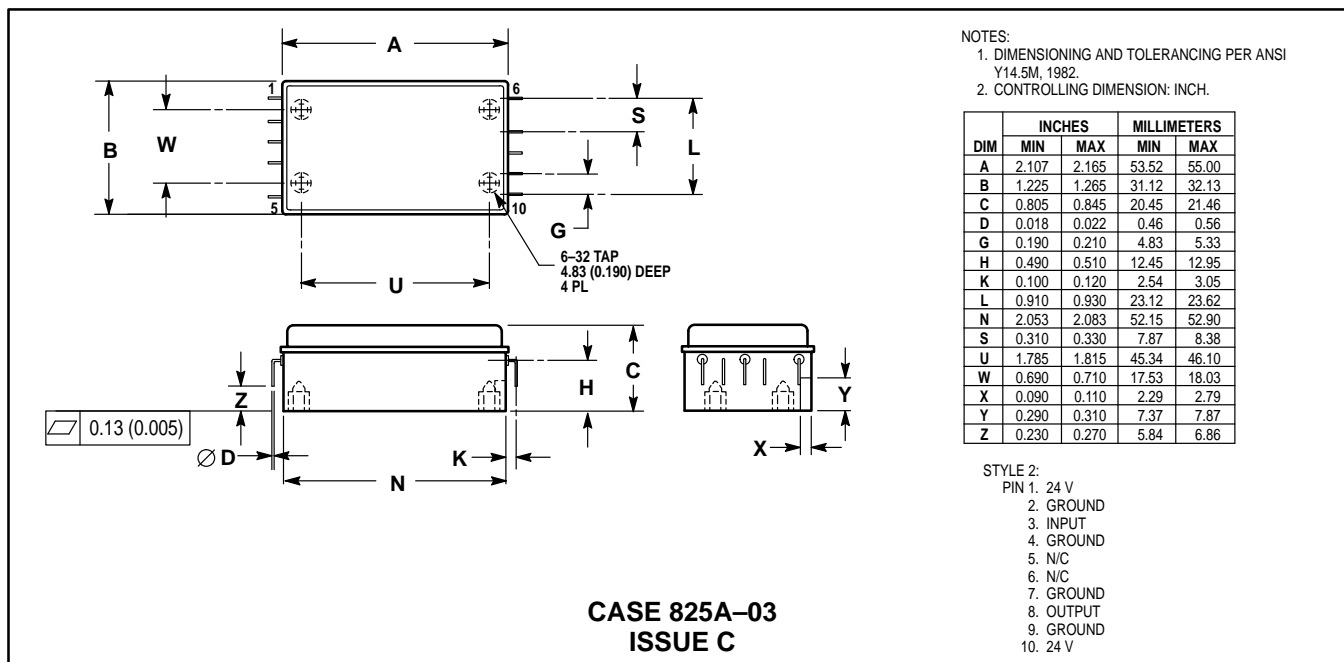
CIRCUITRY BLOCK DIAGRAM



PERFORMANCE MEASUREMENT

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

PACKAGE DIMENSIONS



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MFF224B/D

