

FRA-784/D



- **Excellent CSO/CTB specifications for downstream signals**
- **Extremely high intermodulation specifications for upstream signals**
- **Complies with EN Class A screening requirements**
- **Input Modem Safe™ surge protection**
- **Excellent RF specifications**
- **Very low power consumption: <2.5 Watts**



Overview

The FRA-784/D is a single output high quality home amplifier with active return path for systems with a 65/85 MHz bandsplit. Designed to handle high channel loading with excellent intermodulation specifications, this amplifier offers "future proofing" for the transfer of digital TV channels.

Modem Safe™ protects the amplifier and all connected devices against surge pulses. The high port to port isolation and excellent spurious suppression capabilities prevent high level modem signals interfering with radio or TV signals.

Modem Safe

Modem Safe is a highly effective surge protection solution for sensitive network and in-home CPE. Based on passive circuits, the technology does not rely on discharge tubes, extending the lifespan of the solution.

- Blocks high and low voltage pulses and unwanted DC voltages
- Prevents internal ferrites within the product from becoming magnetised (avoiding deterioration in the performance of CPE)
- Drives fewer reported faults
- Improves customer service
- Reduces truck rolls

Customer premises amplifiers

FRA-784/D

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		MHz	Min	Max	Typ
Frequency	Forward path	85 - 862			
	Return path	5 - 65			
Return loss ¹	In	5 - 65	18.0		
		85 - 862	18.0		
	Port 1,2,3,4	5 - 65	18.0		
		85 - 862	18.0		
Ripple	Forward path	85 - 120		+/-1.0	
		120 - 862		+/-0.75	
	Return path	5 - 65		+/-0.75	
Gain	In -> Out	85 - 862	10.5	12.5	11.5
	Out-> In	5 - 65	5.5	7.5	6.5
Noise figure ^{2,3}	Forward path	85 - 120		7.0	6.0
		120 - 862		6.0	5.0
	Return path	5 - 65		6.0	5.0
Intermodulation	Forward path ⁴	IM-2 (Port 4)			-86.0
		IM-3 (Port 4)			-100.0
	Return path ⁵	IM-2		-80.0	-86.0
		IM-3		-58.0	-61.0
Channel loading ⁶	CTB			-72.0	-75.0
	CSO			-80.0	-88.0
Spurious ⁷		85 - 108		-100.0	-105.0
		120 - 130		-100.0	-105.0
		130 - 862		-100.0	-110.0
Screening efficiency ⁸		30 - 300	85.0		95.0
		300 - 470	80.0		90.0
		470 - 862	75.0		85.0
Group delay (ns, max) ^{9,10}	Input -> Output	87 - 91.5		15	10
		91.5 - 862		10	5
	Output -> Input	5 - 65		35	25
Supply voltage DC (VDC)		12 VDC			
Power consumption		2.5 W			
Surge class conformance ¹¹		1 kV 1.2/50 µs			
Connectors ¹²	In / Port 1,2,3,4	F-female			
	Power	DC jack Male type			
Material	Housing	Nickel plated Zinc die-cast			
	F-spring	Tin plated beryllium copper			
Temperature range (°C)	Operating	-20°C to +40°C			
Impedance (Ohm, typ)		75			
Dimensions (mm)	L x H x D	120.0x110.0x40.0			
Equipment approval	CE				

Remarks

1	Where frequency is above 40 MHz, deduct 1.5 dB/ Octave
2	From input to output
3	From output to input
4	IM-2 standard two tone test, IM-3 standard three tone test (DIN45004), 80 dBµV input level.
5	IM-2 standard two tone test, IM-3 standard three tone test (DIN45004)@ 115 dBµV at input
6	GENELEC 42 ch. @80 dBµV on the input
7	F1+F2 w.r.t. F1 and F2 @ 115 dBµV at input port, after 10 pulses 25Vdc (rise time 1,2µS /500µS duration) at all ports
8	Tested according to EN 50083-2 2006
9	dF= 4,433 MHz
10	dF=2 MHz
11	Modem Safe circuit. IEC-1000-4-5 level 2: 1KV pulse (rise time 1,2 µs/ fall time 50 µs). No degradation allowed.
12	According to IEC 169-24 (machined thread) inner conductor diameter min.0,51 mm max 1,3 mm. Measurements taken at room temperature

Ordering information

Item Name	Article number
FRA-784/D	19000333

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