

# SATELLITE IF CHANNEL FILTERS

## Features

- Tight amplitude and group delay specifications
- Consistent 6 dB Insertion Loss across range
- Impedance: 75  $\Omega$
- Geometrically symmetric response
- Remote filter identification
- Passband return loss: > 15 dB

A range of bandpass filters for use in 70 MHz I.F. stages of satellite links. Designed to meet the tight amplitude and group delay characteristics necessary for close channel separation as specified in the Eutelsat, Intelsat, Arabsat and Astra templates. A particular feature is the passive logic array which can be interrogated electronically to detect the presence and type of filter. Other templates and different I.F. frequencies considered on request.

Table 1 – Amplitude See over	A/3 MHz	A MHz	B MHz	C MHz	D MHz	a dB	b dB	c dB	d dB	e dB
FB282 – Eutelsat Full Transponder	9.6	28.8	36.0	45.5	60.0	0.6	2.5	10.0	25	0.3
FB281 – Eutelsat Half Transponder	8.0	24.0	30.0	35.0	50.0	0.3	3.0	7.0	25	0.1
FB296 – Intelsat 17.5 MHz Carrier	4.2	12.6	15.75	18.0	26.5	0.3	2.5	6.5	25	0.1
FB295 – Intelsat 20 MHz Carrier	4.8	14.4	18.0	20.5	28.0	0.3	2.5	7.5	25	0.1
FB294 – Intelsat 30 MHz Carrier	8.0	24.0	30.0	----	----	0.5	2.5	----	----	0.3
FB552 – Arabsat 32 MHz Carrier	8.6	25.8	32.0	37.0	54.0	0.6	2.5	10.0	25	0.3
FB404 – Astra	6.7	20.2	25.2	28.9	40.0	0.2	2.2	8.3	25	0.0

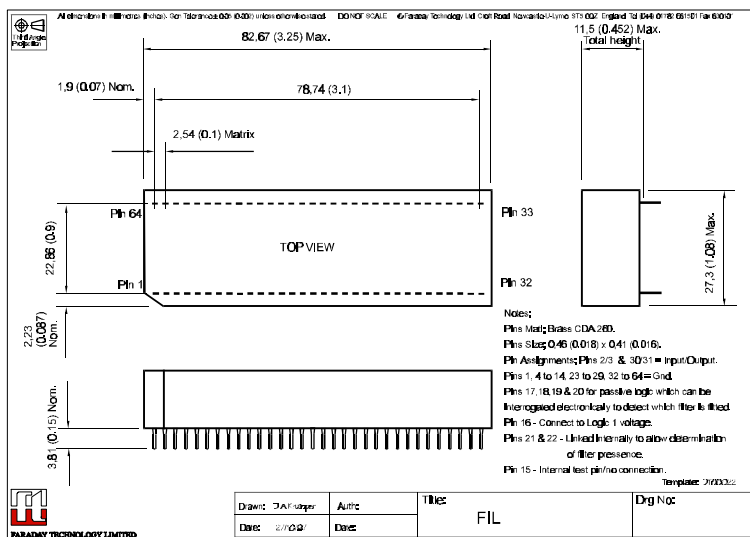
Table 2 – Group delay See over	A/3 MHz	A MHz	H MHz	f ns	g ns	h ns
FB282 – Eutelsat Full Transponder	9.6	28.8	33.1	3	5	15
FB281 – Eutelsat Half Transponder	8.0	24.0	30.0	4	6	15
FB296 – Intelsat 17.5 MHz Carrier	4.2	12.6	14.2	6	6	15
FB295 – Intelsat 20 MHz Carrier	4.8	14.4	16.6	4	5	15
FB294 – Intelsat 30 MHz Carrier	8.0	24.0	30.0	5	5	15
FB552 – Arabsat 32 MHz Carrier	8.6	25.8	32.0	2	3	12
FB404 – Astra	6.7	20.2	24.6	2	3	12

A particular feature is the passive logic array which can be interrogated electronically to detect the filter type (see table opposite).

Pins 21 and 22 are linked internally and can be used to determine if a filter is present in its mounting slot. Pin 16 is connected to a voltage representing logic 1 and pins 17 to 20 are either connected to this or ground.

Filter Type	Pins	17	18	19	20
FB281		0	0	0	1
FB282		0	0	1	0
FB294		0	0	1	1
FB295		0	1	0	0
FB296		0	1	0	1
FB404		0	1	1	0
FB552		1	0	1	0

# PACKAGE DETAIL



Note: For correct operation all the ground pins should be taken to a good earth plane.