



T 42-21
USICs

FB3610, FB3620, FB3630 General Purpose Tile Arrays

GENERAL DESCRIPTION

The FB3610, FB3620, and FB3630 are general purpose analog tile arrays capable of implementing a wide range of circuit functions. These FB3600 family arrays use our proprietary mini-tile architecture. The mini-tile approach combined with our 12-volt, 1 GHz technology allows high complexity, high speed circuits to be easily integrated.

Each of these general purpose arrays have the same basic structure. The difference is in the number of mini-tiles and therefore the number of total components available on each array. The different arrays can incorporate differing levels of circuit complexities. The FB3610 is the smallest and able to contain approximately six full function operational amplifiers or twelve comparators. The largest general purpose array, the FB3630, can incorporate 24 operational amplifiers or as many as 48 comparators.

Both the FB3620 and FB3630 contain precision resistor mini-tiles which allows precision circuits to be integrated on these arrays. The typical resistor match of 0.5% enables an 8-bit DAC to be implemented. All three of these arrays also contain low noise and power devices. The low noise transistors allow circuits with less than $5\text{nV}/\sqrt{\text{Hz}}$ input referred noise to be realized. The power transistors can supply up to 100mA each and can be paralleled for higher currents. Other FB3600 arrays can achieve up to 2 amps.

High performance circuits can be implemented on these arrays. Amplifiers with bandwidths up to 70 MHz and voltage controlled oscillators up to 50 MHz can be implemented on the FB3610, FB3620 or FB3630 arrays. Higher frequency performance can be achieved on other FB3600 family tile arrays.

FEATURES

- High complexity and high performance
- Operates with supplies up to 12 volts, $\pm 10\%$
- Flexible mini-tile architecture
- Precision and high current components
- 12 volt, 1 GHz technology

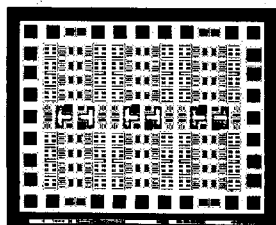
ARRAY SUMMARY

	FB3610	FB3620	FB3630
NPN Transistors	178	268	472
PNP Transistors	78	124	232
Total Diffused Resistance	288K	425K	768K
Total Implant Resistance	1563K	2048K	3584K
Total MOS Capacitance	30pF	60pF	120pF
Total Components	742	1092	1944
Bond Pads	24	32	46
Die Size (mils)	82×102	102×115	131×150

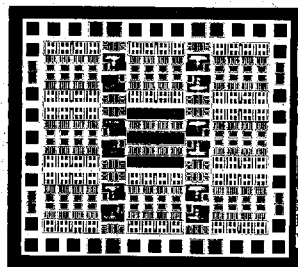
MINI-TILE SUMMARY

	FB3610	FB3620	FB3630
T1 General	48	64	112
T2 Specialized	6	12	24
T3 Power	4	4	4
T4 Low Noise	4	4	4
T5 Precision		4	8

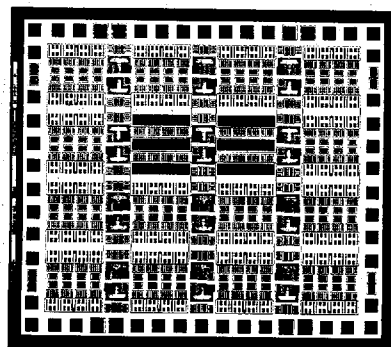
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FB3610



FB3620



FB3630