FB3491 Resonant Mode Controller Array

GENERAL DESCRIPTION

The FB3491 is an application focused tile array intended for resonant mode power supply controller applications. This array, built on our 40 volt technology, consists of customized and general purpose groupings of components to implement the various power supply control circuit blocks. Certain areas, such as the power output section and the oscillator, are customized to obtain a higher level of performance for these critical circuit functions.

The array has four high current (2A peak) output transistors to implement two high current, low cross conduction, totem pole type output drivers. The high current capability allows the quick charge and discharge of the gate capacitance of external power MOSFET devices.

High speed emitter function logic circuits can be implemented to achieve fast current sense circuits. A propagation delay of less than 50ns from current sense to output shutdown can be achieved. An oscillator that is capable of operating up to 3MHz and a precision reference with an accuracy of ±1% and a temperature stability of 50 ppm/°C are examples of the level of performance that can be achieved.
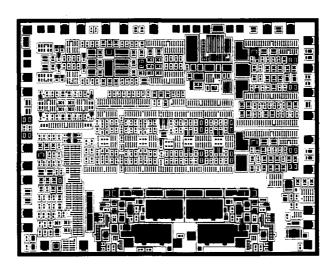
Standard products built on this tile array can be easily modified to create a semi-standard version optimized for a specific customers application.

FEATURES

- Array Optimized for Resonant Mode Power Supply Control Circuits
- High Current (2A) Output Transistors for Fast Output Drivers
- Can Implement all the Circuit Blocks for a High Performance Resonant Mode Controller
- 6 Analog Circuit Blocks and 40 Gate Complexity
- 40 Volt, 400 MHz Technology

ARRAY SUMMARY

NPN Transistors	315
PNP Transistors	126
Power NPN Transistors	4
Schottky Transistors	33
Total Diffused Resistance	570K
Total Implant Resistance	2600K
Total MOS Capacitance	34pF
Total Components	1248
Bond Pads	30
Die Size (mils)	140 × 181

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