

SPITFIRE OTI-64107

Multimedia GUI Accelerator

FEATURES

- ◆ True 64-bit architecture
- ◆ Screen resolutions:
 - 1280 x 1024, 256 colors @ 75Hz non-interlaced
 - 1024 x 768, 16M colors @ 60Hz non-interlaced
- ◆ 0.6-micron CMOS process
- ◆ 240-pin PQFP (0.5mm lead pitch)

TRUE MULTIMEDIA PORT

- ◆ 16-bit datapath
- ◆ Shared DRAM frame buffer for graphics and video
- ◆ 33MHz transfer rate, 66Mbytes/sec data bandwidth
- ◆ Video masking (using a standard inexpensive RAMDAC) allows:
 - Text, graphics, or animation overlay on video
 - Live video does not freeze under a pull-down menu
 - Arbitrarily shaped video windows
 - Multiple video windows
- ◆ Supports chroma-keying with a special RAMDAC
- ◆ Hardware cursor on video
- ◆ Scaling: x 2, x 4, x 8
- ◆ Glueless live video support for the most popular video chips
- ◆ I²C interface built in
- ◆ Modular upgradability; live video can be added as an option
- ◆ High-performance drawing engine:
 - Bitblt engine with color expansion/conversion and clipping
 - Supports four independent bitmaps (source, destination, pattern, and mask)
 - Supports Windows NT quaternary ROPs and Windows 3.x ternary ROPs
 - Line drawing, area fills, and CPU assisted drawing mode
 - 1, 8, 16, 32 bits/pixel

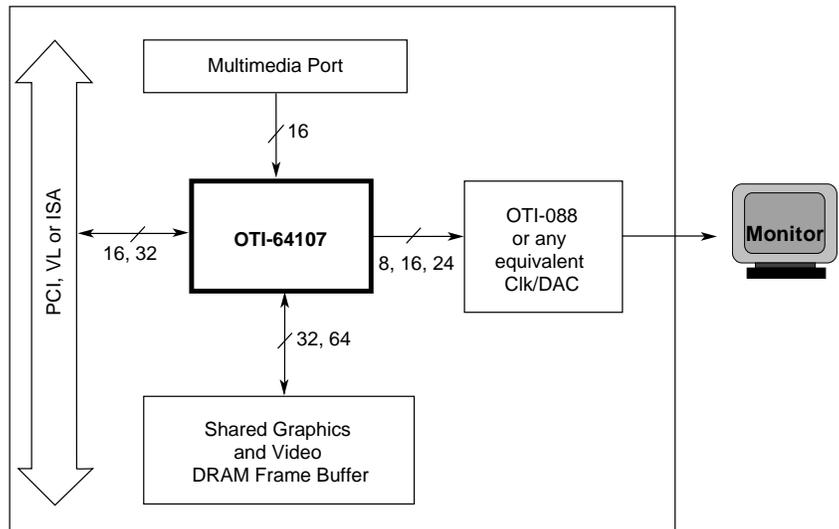
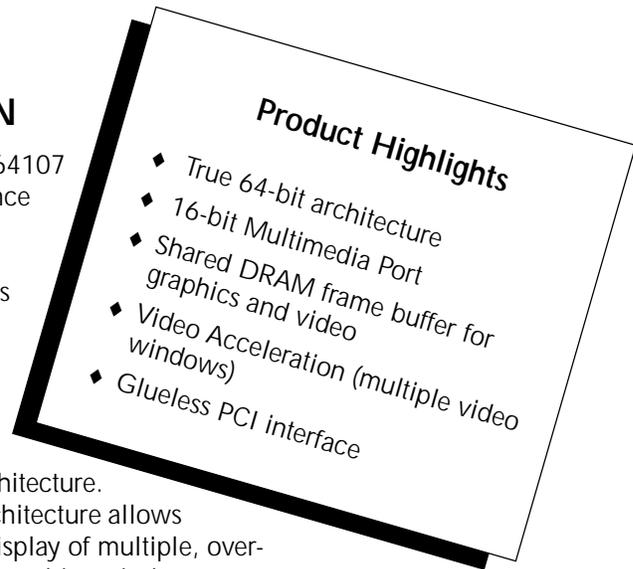
DESCRIPTION

The Spitfire™ OTI-64107 is a high-performance 64-bit DRAM GUI Accelerator. The OTI-64107 provides integrated multimedia support with a 16-bit live video input interface and a shared display memory architecture.

Spitfire's unique architecture allows the simultaneous display of multiple, overlapping video and graphics windows.

The OTI-64107 interfaces directly to the PCI bus as well as to the VL and ISA buses, with no external logic. Its 64-bit drawing engine and 64-bit DRAM interface provides high performance at a cost-effective price. Additionally, Spitfire supports Windows NT quaternary ROPs and Windows 3.x ternary ROPs providing dramatic performance improvement by executing typical software driver functions in hardware. On the PCI bus, Spitfire supports direct burst read from system memory and direct burst write to system memory for faster memory-to-screen and screen-to-memory transfers.

Combined with the OTI-088, Clock/DAC (24-bit pixel port) and DRAM, the Spitfire provides a complete, high-performance graphics solution with multimedia support. Using the OTI-64107, manufacturers can implement a cost effective GUI accelerator or a complex multimedia subsystem.



Spitfire System Block Diagram

FEATURES (continued)

- ◆ Hardware cursor:
 - 64 x 64 x 2 bits/pixel, at 16M colors
 - ◆ Frequency of operation:
 - Pclk=110MHz
 - Mclk=66MHz
 - ◆ Display memory
 - Typical 2Mbytes of DRAM
 - Up to 8Mbytes
 - Supports 256K x 16, 512K x 8, 1M x 4, 256K x 8, and 256K x 4 DRAMS
 - 32/64-bit display memory databus
 - Programmable display memory timing
 - ◆ ISA/VL/PCI buses supported
 - Write buffer
 - Memory mapped I/O
 - ◆ Glueless 32-bit VESA Local Bus interface
 - ◆ PCI bus:
 - Glueless 32-bit PCI bus interface
 - Master Mode support
 - Direct burst transfer to/from system memory
 - 4Gbytes memory addressing capability
 - ◆ Output pixel port:
 - 8/16/24-bit
 - Directly outputs to OTI-088 24-bit CIK/DAC
 - Allows multiple pixel packing
 - Supports 1280 x 1024 x 256 colors at 75Hz (135MHz clock) by multiple pixel packing out of the OTI-64107
 - ◆ E²PROM support for switchless implementation
 - ◆ Fully integrated Feature Connector support, compliant with VESA VAFC Proposal 1.0p
-