



**SHARP's New Line
of MCUs and
System-on-Chips**

APPLICATIONS:

- White Goods
- Industrial Control
- Smart Toys

LH79524 32-bit System-on-Chip with Color LCD Controller

FEATURES

- ARM720T™ Core
 - High Performance (77.4 MHz)
 - 8KB cache
 - MMU
- 16KB On-chip SRAM
- 10/100 BaseT Ethernet MAC
- USB 2.0 Full Speed Device
- Clock and Power Management
 - Low Power Modes – Active, Standby, Sleep, Stop1, Stop2
- Color LCD Controller
 - 16-bit (65,536) Direct Mode Color
 - Up to VGA (800 × 600)
 - 8-bit (256) Direct or Palletized Color
 - Up to XGA (1,024 × 768)
 - 16-bit Video Bus
 - Supports STN, TFT, HR-TFT, AD-TFT
- Ten Input, 10-bit A/D Converter with Integrated Touch Screen Controller
- Four DMA Channels
- SDRAM Controller
- NAND Flash Support
- Serial Interfaces
 - Three 16C550 UARTs, with 9-bit capability
 - Classic IrDA (115 Kbit/s)
 - SSP
 - I²C
 - I²S Codec Interface
- External Bus Interface
 - Six Chip selects Providing Glueless Interface to Off-Chip Memories and Peripherals
 - 24 Address Bits
 - 32 Data Bits

- Real Time Clock (RTC)
 - Operates from 32 kHz XTAL
- 88 GPIO, 8 GPI
- Three 16-bit Counter/Timers with Capture/Compare/PWM Capability
- Watchdog Timer
- Low Voltage Detector
- JTAG Debug Interface and Boundary Scan
- 3.3 V Operating Voltage
- On-chip 3.3 V to 1.8 V Linear Regulator
- -40°C to +85°C Operating Temperature
- 208-ball CABGA Package

DESCRIPTION

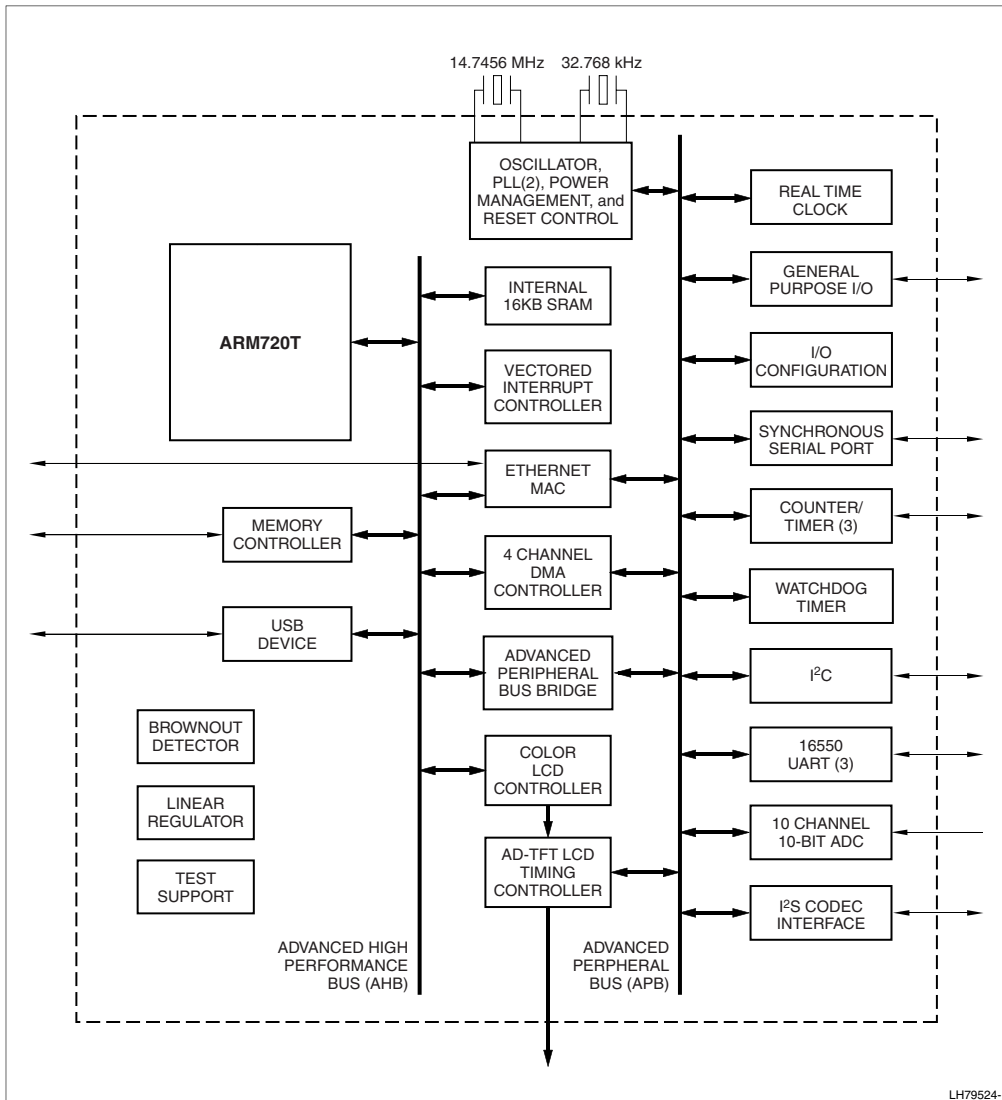
The LH79524 is a low cost microcontroller that utilizes the ARM720T core integrated with a wide variety of functions including the capability to control STN, color STN, TFT, HR-TFT, and AD-TFT displays with up to 65,536 colors. Other functions include: 16KB of on-chip SRAM, 10/100 BaseT Ethernet MAC, USB 2.0 Full Speed Device, three UARTs, SSP, I²C, I²S, three 16-bit Counter/Timers, Analog to Digital Converter with integrated Touch Screen controller, SDRAM Controller, Watchdog Timer, and Low Voltage Detector. The LH79524 operates up to 77.4 MHz at 3.3 V over the industrial temperature range of -40°C to +85°C and is offered in a 208-ball CABGA package.

SHARP's LH79524 design provides low power, exceptional performance, good flexibility, and great value in a 32-bit processor with a full 32-bit external data bus.

PRELIMINARY PRODUCT INFORMATION

SHARP

LH79524 BLOCK DIAGRAM



SHARP[®]

MICROELECTRONICS OF THE AMERICAS

Regional Sales Offices

North American Headquarters

Camas, WA
Ph (360) 834-2500
Fax (360) 834-8903

West

Huntington Beach, CA
Ph (714) 903-4600
Fax (714) 903-0295

San Diego, CA
Ph (858) 597-0982
Fax (858) 597-8701

San Jose, CA
Ph (408) 436-4900
Fax (408) 436-0924

East

Boca Raton, FL
Ph (561) 347-8690
Fax (561) 347-8692

Burlington, MA
Ph (781) 270-7979
Fax (781) 229-9117

Carey, NC
Ph (919) 460-0695
Fax (919) 460-0795

New York, NY
Ph (212) 945-9410
Fax (212) 945-9412

Pittsburgh, PA
Ph (412) 381-1191
Fax (412) 381-1192

Central

Schaumburg, IL
Ph (847) 925-9150
Fax (847) 925-9172

Auburn Hills, MI
Ph (248) 391-5404
Fax (248) 391-6165

Austin, TX
Ph (512) 349-7262
Fax (512) 349-7002

DFW Airport, TX
Ph (972) 456-8560
Fax (972) 456-0360

Houston, TX
Ph (281) 955-9909
Fax (281) 955-9910

Muskego, WI
Ph (414) 529-9568
Fax (414) 529-9569

Europe

SHARP Microelectronics
Europe
Hamburg, Germany
Ph (49) 40-2376-2286
Fax (49) 40-2376-2232

Asia

SHARP Corporation
Osaka, Japan
Ph (81) 6-6621-1221
Fax (81) 6117-725300

Product Information: 1-800-642-0261

World Wide Website: <http://www.sharpsma.com>

Specifications are subject to change without notice. Suggested applications (if any) are for standard use; See Important Restrictions for limitations on special applications. See Limited Warranty for SHARP's product warranty. The Limited Warranty is in lieu, and exclusive of, all other warranties, express or implied. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE AND FITNESS FOR A PARTICULAR PURPOSE, ARE SPECIFICALLY EXCLUDED. In no event will SHARP be liable, or in any way responsible, for any incidental or consequential economic or property damage.