APPLICATION-SPECIFIC STANDARD PRODUCTS

Storage ICs

Features

**ATT91C011 REACH 1**
- Fully integrated single-chip read channel
- 5 V all-CMOS design
- Low-power operation: 230 mW max read mode/225 mW max write mode
- Standby mode power = 35 mW max
- Data rates from 6.67 Mbits/s to 30 Mbits/s
- Internal embedded servo demodulator
- On-chip pulse detector & AGC circuitry
- Fully integrated multiple-zone constant density recording support
- On-chip DAC for PLL center frequency control
- Fast-acquisition zero-phase start PLL
- On-chip write precompensation circuitry
- µP programmable via serial interface
- Available in both 44-pin PLCC and EIAJ QFP package

**ATT91C012 Enhanced REACH 1**
- REACH 1 performance and features
- In addition:
  - Separate AGC loops for data and servo
  - Precision averaging peak detect servo demodulator

**ATT91C020 REACH 2**
- Fully integrated all-CMOS single-chip read channel
- 5 V only low-power operation with multiple powerdown modes:
  - Under 500 mW in operating
  - Under 195 mW in servo tracking
  - Under 1 mW in sleep mode
- Supports power cycling via I/O pin:
  - Wake-up from sleep in under 1 ms
  - Fast wake-up from track following in under 30 µs
- Data rates from 6.67 Mbits/s to 30 Mbits/s
- Full multizone constant density recording support
- Integrates the following read/write and servo functions on one IC:
  - Data AGC circuit
  - Pulse detector with two programmable qualification thresholds
  - 7th-order 0.05° equiripple data filter with programmable boost
  - Data synchronizer with programmable window shift and zero phase start PLL
  - Bypassable RLL (1, 7) ENDEC
  - Two-level write data precompensation
  - 3rd-order bessel servo filter
  - Quad integrating servo demodulator with PES outputs
  - Frequency synthesizer
- Typically requires 11 external passive components
- 64-pin EIAJ SQFP package

**ATT93C010 SEARCH 1**
- On-chip 30 MHz 80C31 microcontroller with 256 bytes of internal RAM
- On-chip digital signal processor:
  - DSP is optimized for mass storage
  - Accumulation self-limits to significantly reduce DSP overhead
  - Selectable 2s complement and unsigned arithmetic
  - Performs 16- by 16-bit multiply in one clock
  - Accumulates to 32-bit precision
  - Includes 32- by 16-bit division instruction
- On-chip programmable timing processor generates and detects servo timing signals
- On-chip burst-mode DMA controller
- On-chip programmable clock generator:
  - Crystal oscillator accepts crystal or CMOS-level inputs
  - Supplies five internal and two external clock references
  - External clock reference provides four programmable divisors
- CMOS design requires single 5 V or 3 V supply
- Versatile power management: internal and external clock references can be individually enabled or disabled
- 100-pin EIAJ SQFP

**ATT93C020 SEARCH 2**
- Integrated SEARCH 1 and SPIN 1

**ATT91C611 SPIN 1**
- Six-channel A/D converter
- Performs 10-bit A/D conversion in 1.8 µs
- Performs 10-bit D/A conversion in 3.6 µs
- Interfaces to 8- or 16-bit multiplexed µP bus
- Sleep and power-saving modes
- Internal or external reference voltage
- 6 ADC output storage registers
- +5 V single power supply
- 48-pin EIAJ SQFP package

Product Matrix

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Package Type</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT91C011-30M44</td>
<td>REACH 1 Integrated Read Channel</td>
<td>44-pin PLCC</td>
<td>—</td>
</tr>
<tr>
<td>ATT91C011-30J44</td>
<td>REACH 1 Integrated Read Channel</td>
<td>44-pin EIAJ QFP</td>
<td>—</td>
</tr>
<tr>
<td>ATT91C012-30M44</td>
<td>Enhanced REACH 1 Integrated Read Channel</td>
<td>44-pin PLCC</td>
<td>—</td>
</tr>
<tr>
<td>ATT91C020-30Q64</td>
<td>REACH 2 Fully Integrated Read Channel</td>
<td>44-pin EIAJ SQFP</td>
<td>—</td>
</tr>
<tr>
<td>ATT93C010-30Q10</td>
<td>SEARCH 1 Servo DSP Multiprocessor</td>
<td>100-pin EIAJ SQFP</td>
<td>—</td>
</tr>
<tr>
<td>ATT93C020-30Q10</td>
<td>SEARCH 2 Integrated SEARCH 1 and SPIN 1</td>
<td>100-pin EIAJ SQFP</td>
<td>—</td>
</tr>
<tr>
<td>ATT91C611-06Q48</td>
<td>SPIN 1 Servo Data Converter</td>
<td>48-pin EIAJ SQFP</td>
<td>—</td>
</tr>
</tbody>
</table>

For additional information, call your AT&T Account Manager, or call 1-800-372-2447.