Agere Systems

Venus® Controller-Based Modem DSP

Features

- Single-chip integrated DSP and controller:
  - 1673: 56 kbits/s 5 V devices
  - 1675: 56 kbits/s 3.3 V devices
  - 1670: 33.6 kbits/s 5 V and 3.3 V devices

- Data mode capabilities:
  - ITU-T V.90: 28,000 bits/s—56,000 bits/s
  - ITU-T V.34: 33,600 bits/s—2,400 bits/s
  - V.32terbo, V.32bis, and fallbacks
  - V.42 error correction (LAPM and MNP®)
  - V.44, V.42bis and MNP class 5 data compression

- FAX mode capabilities:
  - ITU-T V.17, V.29, V.27ter, and V.21 Ch 2
  - Class 1/class 2 FAX

- Enhanced voice features:
  - IS-101 AT+V commands with extensions
  - Telephone answering machine (TAM)
  - Record/playback
  - Distinctive ring
  - Call screening
  - Ring detect
  - Data/FAX/voice call discrimination

- SIMULTALK® full-duplex speakerphone (FDSP) capabilities:
  - Adaptive acoustic echo canceller for dynamic speaker/microphone positioning
  - Concurrent DTMF tone detections

- Compatible with transformer-based and silicon DAA circuits:
  - High-precision sigma delta codec (CSP1034C)
  - Line powered silicon DAA (CSP1035A)

- Extensive bit I/O control for homologation control and cellular direct connect

- Internal PLL for single low-speed crystal support

- Flash-programming support

- Single package (plastic) option: 128-pin TQFP, 144-pin TQFP, or 160-pin PBGA

- Integrated serial V.24 interface capabilities:
  - Autobaud up to 230K baud
  - Full support of RS-232C asynchronous protocol

- Integrated PCMCIA interface capabilities:
  - Fully PC card compliant
  - 16-bit multifunction card support for external logical devices
  - Independent power management per logical device

- USB support with USB interface chip:
  - Fully compliant with Universal Serial Bus specification Revision 1.0 including power management
  - Targeted for Windows® 98, Windows 2000, and Macintosh® operating systems

- PCI support with PCI interface chip:
  - Meets Microsoft® PC 98 requirements
  - ACPI power management
Description

Figure 1. V.90 Embedded Modem and V.90 Serial Box Modem Block Diagram

Figure 2. V.90 PC Card Block Diagram
Description (continued)

Figure 3. V.90 Venus USB Block Diagram

Figure 4. V.90 Venus PCI Block Diagram
Package Information

![Diagram of Venus Controller-Based Modem DSP chip set]

**Figure 5. Serial Box Modem Chip Set**

![Diagram of PC Card Chip Set]

**Figure 6. PC Card Chip Set**
Package Information (continued)

Figure 7. USB Modem Chip Set

Figure 8. Controller-Based PCI Chip Set
Package Ordering Information

Table 1. DSP Ordering Information

<table>
<thead>
<tr>
<th>Device</th>
<th>Speed</th>
<th>Voltage</th>
<th>128TQFP</th>
<th>144TQFP</th>
<th>160PBGA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1673</td>
<td>V.90</td>
<td>5 V</td>
<td>1673TV8-28RDDD-DB</td>
<td>1673TV8-44RDDD-DB</td>
<td>Not Available</td>
</tr>
<tr>
<td>1675</td>
<td>V.90</td>
<td>3 V</td>
<td>1675TV3-28RDDD-DB</td>
<td>1675TV3-44RDDD-DB</td>
<td>1675BAV2RDDD12V-DB</td>
</tr>
<tr>
<td>1670</td>
<td>V.34</td>
<td>5 V</td>
<td>1670TV8-28RDDD-DB</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>1670</td>
<td>V.34</td>
<td>3 V</td>
<td>1670TV3-28RDDD-DB</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Notes:
- PCMCIA designs require the 144TQFP.
- Serial designs require the 128TQFP.
- When ordering, make sure that devices from multiple fabs are qualified.

Table 2. Chip Set Names and Part Numbers

<table>
<thead>
<tr>
<th>Platform</th>
<th>Feature</th>
<th>Chip Set</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial/Embedded</td>
<td>V.90/V.92 Data/FAX/Speaker- phone</td>
<td>DSP1673 CSP1034AH CSP1029</td>
<td>128 TQFP 48 TQFP 48 TQFP</td>
</tr>
<tr>
<td>PC Card</td>
<td>V.90/V.92 Data/FAX/Cell</td>
<td>DSP1673 Cell CSP1034AH</td>
<td>144 TQFP 48 TQFP</td>
</tr>
<tr>
<td>USB</td>
<td>V.90/V.92 Data/FAX</td>
<td>DSP1675 CSP1034C USB INT</td>
<td>128 TQFP 48 TQFP 48 TQFP</td>
</tr>
<tr>
<td>PCI</td>
<td>V.90/V.92 Data/FAX</td>
<td>DSP1673 CSP1034AH PCI INT</td>
<td>128 TQFP 48 TQFP 128 TQFP</td>
</tr>
</tbody>
</table>

Notes:
- Please provide device number and package when placing orders.
- Data/FAX support does not require the T7525.

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