

# Dynamic RAM Module

X6

| Capacity | Type No.                                | Organiza-<br>tion | Access Time                                                              | No. of<br>Pins | Assembly (mm)     |                   |           | Comment                                              |
|----------|-----------------------------------------|-------------------|--------------------------------------------------------------------------|----------------|-------------------|-------------------|-----------|------------------------------------------------------|
|          |                                         |                   |                                                                          |                | Height            | Length            | Width     |                                                      |
| 8M Bit   | TH81070CS/CL-50/AS/AL-60/70/80          | 1M x 8            | <sup>t</sup> RAC<br>-50 : 50ns<br>-60 : 60ns<br>-70 : 70ns<br>-80 : 80ns | 30             | 15.24/17.52       | 88.90/76.50       | 5.08      |                                                      |
| 9M Bit   | THM91070AS/AL-60/70/80                  | 1M x 9            |                                                                          | 72             | 25.40             | 107.95            |           |                                                      |
| 16M Bit  | THM161000CSG-50/ASG-60/70/80            | 1M x 16           |                                                                          |                |                   |                   |           |                                                      |
| 18M Bit  | THM181000ASG-60/70/80                   | 1M x 18           |                                                                          | 30             | 20.45/20.45/20.60 | 88.90/88.90/76.50 |           |                                                      |
| 32M Bit  | THM84000CS/CSG/CL-50/AS/ASG/AL-60/70/80 | 4M x 8            |                                                                          |                | 12.64             | 76.50             | 8.89      | Low THM84000AL                                       |
|          | THM84020CL-50/AL-60/70/80               | 1M x 32           |                                                                          | 72             | 21.59             | 107.95            | 5.08/2.54 | SOJ/TSOP Module                                      |
|          | THM321000CS/CSG/CTS-CTSG-50             |                   |                                                                          |                | 5.08              |                   | With OE   |                                                      |
|          | THM321000AS/ASG/ATS/ATSG-60/70/80       |                   |                                                                          |                |                   |                   |           |                                                      |
|          | THM321090CS-50/AS-60/70/80              |                   |                                                                          |                | 21.59             |                   |           |                                                      |
| 33M Bit  | THM331000AS-60/70/80                    | 1M x 33           |                                                                          | 30             | 20.45/20.45/20.60 | 88.90/88.90/81.20 | 8.89      | Low THM94000AL                                       |
| 36M Bit  | THM94000CS/CSG/CL-50/AS/ASG/AL-60/70/80 | 4M x 9            |                                                                          |                | 12.64             | 88.90             |           |                                                      |
|          | THM94020CL-50/AL-60/70/80               | 1M x 36           |                                                                          | 72             | 29.68             | 107.95            | 5.08      | Single sided type of THM361020                       |
|          | THM361000AS/ASG-60/70/80                |                   |                                                                          |                | 21.59             |                   | 8.89/3.81 | SOJ/TSOP Module                                      |
|          | THM361020AS/ASG/ATS/ATSG-60/70/80       |                   |                                                                          |                | 25.40             |                   | 5.08      | 1 inch height type of THM361000                      |
|          | THM361010AS/ASG-60/70/80                |                   |                                                                          |                |                   |                   |           | x36 bit ECC Module                                   |
|          | THM361070CS/CSG-50/AS/ASG-60/70/80      |                   |                                                                          |                |                   |                   |           |                                                      |
| 40M Bit  | THM401000CSG-50/ASG-60/70/80            | 1M x 40           |                                                                          | 30             | 25.40             | 88.90             | 3.81      | TSOP Module                                          |
| 64M Bit  | THM164020CSG-50/ASG-60/70/80            | 4M x 16           |                                                                          |                |                   |                   |           |                                                      |
|          | THM322020CS/CSG-50/AS/ASG-60/70/80      | 2M x 32           |                                                                          |                |                   |                   |           |                                                      |
|          | THM322080CS-50/AS-60/70/80              | 8M x 8            |                                                                          |                |                   |                   |           |                                                      |
|          | THM88020CTS-50/ATS-60/70/80             | 8M x 9            |                                                                          |                |                   |                   |           |                                                      |
| 72M Bit  | THM98020CTS-50/ATS-60/70/80             | 4M x 18           |                                                                          | 72             | 25.40             | 107.95            | 8.89      | Single sided type of THM362020<br>x36 bit ECC Module |
|          | THM184020CSG-50/ASG-60/70/80            | 2M x 36           |                                                                          |                | 29.68             |                   |           |                                                      |
|          | THM362020AS/ASG-60/70/80                |                   |                                                                          |                |                   |                   |           |                                                      |
|          | THM362040AS/ASG-60/70/80                |                   |                                                                          |                |                   |                   |           |                                                      |
|          | THM362060CS/CSG-50/AS/ASG-60/70/80      |                   |                                                                          |                |                   |                   |           |                                                      |
| 80M Bit  | THM402020CSG-50/ASG-60/70/80            | 2M x 40           |                                                                          | 72             | 33.02             | 116.70            | 8.89      |                                                      |
| 128M Bit | THM324080CS/CSG-50/AS/ASG-60/70/80      | 4M x 32           |                                                                          |                |                   |                   |           |                                                      |
| 132M Bit | THM334080CS/CSG-50/AS/ASG-60/70/80      | 4M x 33           |                                                                          |                |                   |                   |           |                                                      |
| 144M Bit | THM364080CS/CSG-50/AS/ASG-60/70/80      | 4M x 36           |                                                                          |                |                   |                   |           |                                                      |
|          |                                         |                   |                                                                          |                |                   |                   |           |                                                      |
| 128M Bit | THM324000S/SG-60/70/80                  | 4M x 32           | <sup>t</sup> RAC<br>-60 : 60ns<br>-70 : 70ns<br>-80 : 80ns               | 72             | 22.86             | 107.95            | 5.08      | 2K refresh                                           |
|          | THM81620S/TS-60/70/80                   | 16M x 8           |                                                                          | 30             |                   | 88.90             | 8.89/3.81 | SOJ/TSOP Module                                      |
| 144M Bit | THM364020S/SG-60/70/80                  | 4M x 36           |                                                                          | 72             |                   | 107.95            | 8.89      | 2K refresh                                           |
|          | THM91620S/TS-60/70/80                   | 16M x 9           |                                                                          | 30             |                   | 88.90             | 8.89/3.81 | SOJ/TSOP Module                                      |
| 160M Bit | THM404020SG-60/70/80                    | 4M x 40           |                                                                          | 72             | 17.78             | 107.95            | 8.89      | 2K refresh                                           |
| 256M Bit | THM328020S/SG-60/70/80                  | 8M x 32           |                                                                          |                | 25.40             |                   |           |                                                      |
| 288M Bit | THM368020S/SG-60/70/80                  | 8M x 36           |                                                                          |                | 34.40             |                   |           |                                                      |
| 320M Bit | THM408020SG-60/70/80                    | 8M x 40           |                                                                          |                | 29.21             |                   |           |                                                      |

Note 1) S: Socket Type (Tin-lead), SG: Socket Type (Gold), L: Lead Type

Note 2) TS/TS: TSOP type

## Dynamic RAM Module (Small Outline DIMM)

X6

| Capacity | Type No.                               | Organization | Access Time                                              | No. of Pins | Assembly (mm) |        |       | Comment                           |
|----------|----------------------------------------|--------------|----------------------------------------------------------|-------------|---------------|--------|-------|-----------------------------------|
|          |                                        |              |                                                          |             | Height        | Length | Width |                                   |
| 32M Bit  | THL321010CTG/**CTS-5/ATG/ATS-6/7/8     | 1M x 32      | tRAC<br>-5 : 50ns<br>-6 : 60ns<br>-7 : 70ns<br>-8 : 80ns | 72          | 25.40         | 59.69  | 3.81  | Low Power Version                 |
|          | THL321010CTG/**CTS-5L/ATG/ATS-6L/7L/8L |              |                                                          |             |               |        |       | 3.3V Operation                    |
|          | TH32V1010ATG/ATS-8                     |              |                                                          |             |               |        |       | Low Power Version, 3.3V Operation |
|          | THL32V1010ATG/ATS-8L                   |              |                                                          |             |               |        |       |                                   |
|          | **THL321070ATG/ATS-6/7                 |              |                                                          |             |               |        |       | 3.3V Operation                    |
|          | **THL32V1070ATG/ATS-7/8                |              |                                                          |             |               |        |       |                                   |
| 128M Bit | **THL324010TG/TS-6/7                   | 4M x 32      |                                                          |             |               |        |       | 3.3V Operation                    |
|          | **THL32V4010BTG/BTS-6/7                |              |                                                          |             |               |        |       |                                   |

Note 1) \*\*: Under development

Note 2) TS: Socket type (Tin-lead), TG: Socket type (Gold)

Note 3) TS/TG: TSOP type