

**DDR3 U-DIMM 1600 8GB
CL11 1.5V
(RoHS compliant)**

Product Type: DDR3 U-DIMM 1600 8GB CL11 1.5V

Customer:

Date: 2022/07/06

Approved by:

Description

Ritek's memory module is organized 64 bits in a 240 pin memory module, based on 8bit DDR3 FBGA components per module.

The U-DIMM is intended for use in applications operating up to 800MHz clock speeds and achieves high-speed data transfer rates of up to 1600MHz.

Features

- Double-data-rate architecture; two data transfers per clock cycle
- The high-speed data transfer is realized by the 8 bits prefetch pipelined architecture
- Bi-directional differential data strobe (DQS and /DQS) is transmitted/received with data for capturing data at the receiver
- DQS is edge-aligned with data for READs; center- aligned with data for WRITEs
- Differential clock inputs (CK and /CK)
- DLL aligns DQ and DQS transitions with CK transitions
- Commands entered on each positive CK edge; data and data mask referenced to both edges of DQS
- Data mask (DM) for write data
- Posted /CAS by programmable additive latency for better command and data bus efficiency
- On-Die-Termination (ODT) for better signal quality Synchronous ODT
Dynamic ODT
Asynchronous ODT
- Multi Purpose Register (MPR) for temperature read out
- ZQ calibration for DQ drive and ODT
Programmable Partial Array Self-Refresh (PASR)
- /RESET pin for Power-up sequence and reset function
- SRT range:
 - Normal/extended
 - Programmable Output driver impedance control

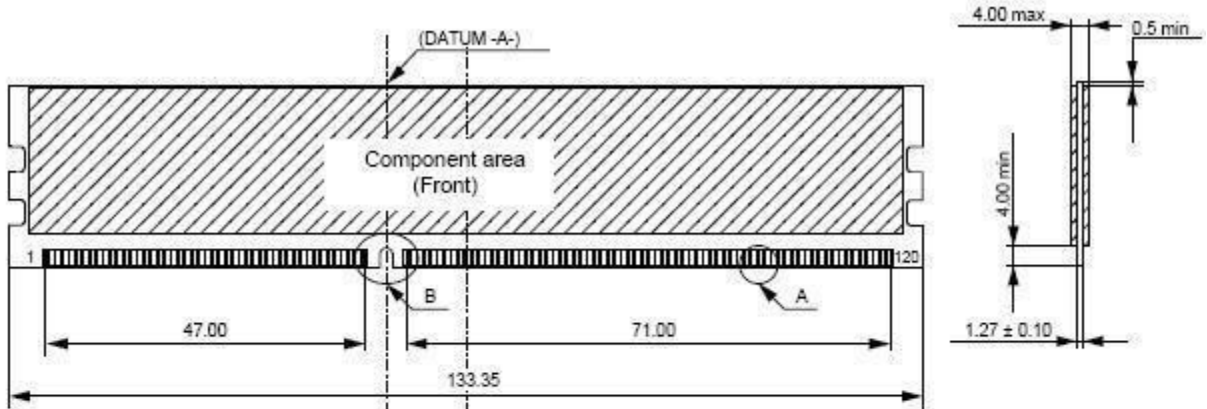
Specifications

- Density: 8GB
- Organization
 - 512M words · 64 bits, 2 ranks
- Mounting 16 pieces of 4G bits DDR3 SDRAM sealed in FBGA
- Package: 240-pin socket type small outline dual in line memory module (U-DIMM)
- PCB height: 30.0mm
- Lead pitch: 0.6mm
- Lead-free (RoHS compliant) and Halogen-free
- Power supply: VDD = 1.5V ± 0.075V
- Data rate: 1600Mbps/1333Mbps/1066Mbps (max.)
- Eight internal banks for concurrent operation (components)
- Interface: SSTL_15
- Burst lengths (BL): 8 and 4 with Burst Chop (BC)
- /CAS Latency (CL): 6, 7, 8, 9, 10, 11
- /CAS write latency (CWL): 5, 6, 7, 8
- Precharge: auto precharge option for each burst access
- Refresh: auto-refresh, self-refresh
- Refresh cycles
 - Average refresh period
 - 7.8 μ s at 0°C δ TC δ +85°C
 - 3.9 μ s at +85°C < TC δ +95°C
- Operating case temperature range
 - TC = 0°C to +95°C

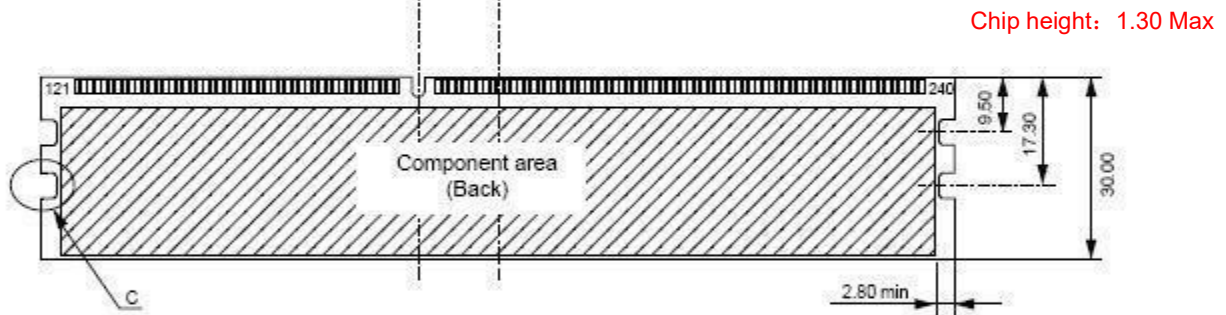
Package Dimensions

Units: Millimeters

Front side

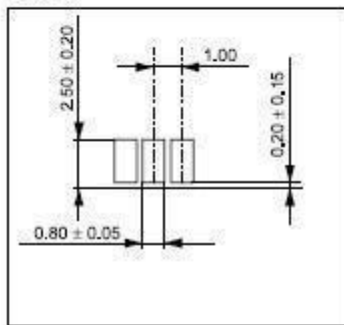


Back side

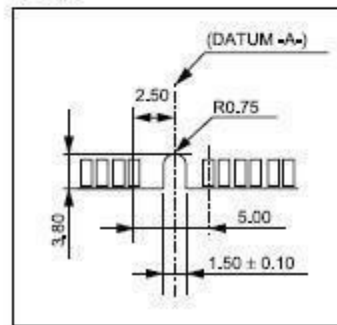


Chip height: 1.30 Max

Detail A



Detail B



Detail C

