



DDR5 SDRAM SODIMM Addendum

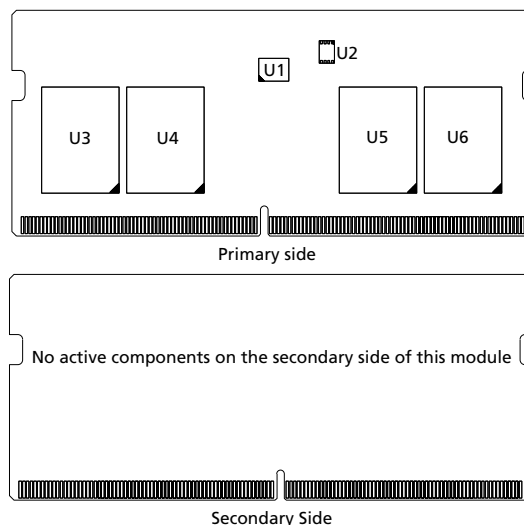
MTC4C10163S1SC – 8GB 16Gb Die Revision A

Features

Information provided here is in addition to or supercedes information provided in the Micron DDR5 SODIMM Core data sheet.

- DDR5 functionality and operations supported as defined in the component data sheet
- Features and specifications defined in the Micron DDR5 SODIMM core data sheet
- 262-pin, DDR5 small outline dual in-line memory module (DDR5 SODIMM)
- Fast data transfer rate: PC5-4800
- 8GB (1Gig x 64)
- Single-rank
- 16 internal banks; 4 groups of 4 banks each

Figure 1: 262-Pin DDR5 SODIMM (R/C-C0)



Options

- Operating temperature
 - Commercial ($0^{\circ}\text{C} \leq T_{\text{OPER}} \leq 95^{\circ}\text{C}$)
- Frequency/CAS latency
 - 0.416ns @ CL = 40 (DDR5-4800)

Marking

C
48B

Table 1: Addressing

Parameter	8GB
Row address ¹	64K (R0-R15)
Column address ¹	1K (C0-C9)
Device bank group address ¹	4 (BG0-BG1)
Device bank address per bank group ¹	4 (BA0-BA1)
Device configuration	16Gb (1Gb x 16), 16 banks
Module rank address	1 (CS0_n)

Notes: 1. These parameters represent the logical address state of the CA bus for different commands. Refer to the command truth table in the component data sheet.



8GB (x64, SR) 262-Pin DDR5 SODIMM Features

Table 2: Part Numbers and Timing Parameters – 8GB Modules

Base device: MT60B1G16,¹ 16Gb DDR5 SDRAM Die Revision A

Part Number	Module Density	Configuration	Module Bandwidth	Memory Clock/ Data Rate	Clock Cycles (CL _n RCD _n RP)
MTC4C10163S1SC48BA1	8GB	1Gb x 64	38.4 GB/s	0.416ns/4800 MT/s	40-39-39

Notes: 1. The data sheet for the base device can be found on [micron.com](https://www.micron.com).



8GB (x64, SR) 262-Pin DDR5 SODIMM Important Notes and Warnings

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8GB (x64, SR) 262-Pin DDR5 SODIMM DQ Map

DQ Map

Table 3: Component-to-Module DQ Map

Component Reference Number	Component DQ	Module DQ	Module Pin Number	Component Reference Number	Component DQ	Module DQ	Module Pin Number
U3	0	14A	49	U4	0	31A	92
	1	13A	46		1	29A	88
	2	15A	50		2	30A	91
	3	12A	45		3	28A	87
	4	11A	38		4	27A	80
	5	9A	34		5	25A	76
	6	10A	35		6	26A	77
	7	8A	31		7	24A	73
	8	7A	30		8	23A	72
	9	6A	27		9	22A	69
	10	4A	23		10	20A	65
	11	5A	26		11	21A	68
	12	3A	16		12	18A	57
	13	1A	12		13	16A	53
	14	0A	11		14	19A	58
	15	2A	15		15	17A	54
U5	0	5B	194	U6	0	23B	240
	1	4B	191		1	20B	233
	2	6B	195		2	22B	237
	3	7B	198		3	21B	236
	4	2B	183		4	19B	226
	5	0B	179		5	17B	222
	6	1B	180		6	16B	221
	7	3B	184		7	18B	225
	8	14B	217		8	27B	248
	9	12B	213		9	26B	245
	10	15B	218		10	25B	244
	11	13B	214		11	24B	241
	12	11B	206		12	30B	259
	13	8B	199		13	28B	255
	14	10B	203		14	29B	256
	15	9B	202		15	31B	260



8GB (x64, SR) 262-Pin DDR5 SODIMM I_{DD} Specifications

I_{DD} Specifications

Table 4: DDR5 I_{DD} Specifications and Conditions – 8GB (Die Revision A)

Module I_{DD} is based on PMIC VIN_BULK 5V input current and typical operating temperature. Each I_{DD} parameter includes PMIC efficiency and all DRAM current on all supplies (V_{DD}, V_{DDQ}, and V_{PP}).

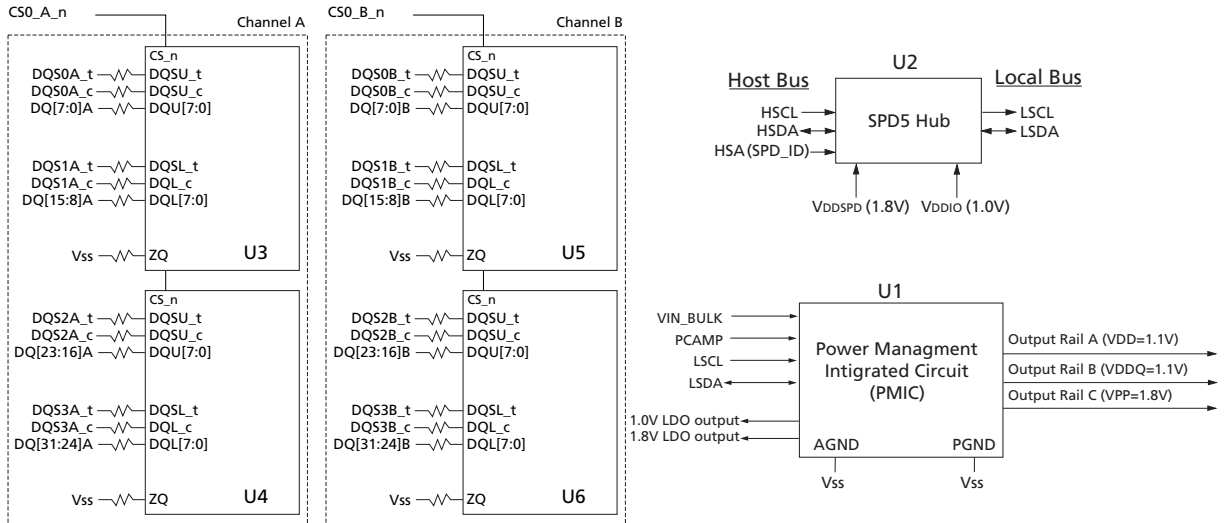
Parameter	Symbol	4800	Units
Operating one bank ACTIVATE-PRECHARGE current	I _{DD0}	98	mA
Operating four bank ACTIVATE-PRECHARGE current	I _{DD0F}	172	mA
Precharge standby current	I _{DD2N}	74	mA
Precharge standby non-target command	I _{DD2NT}	166	mA
Precharge power-down current	I _{DD2P}	65	mA
Active standby current	I _{DD3N}	81	mA
Active power-down current	I _{DD3P}	75	mA
Operating burst read current	I _{DD4R}	537	mA
Operating burst write current	I _{DD4W}	778	mA
Operating burst write with write CRC current	I _{DD4WC}	695	mA
Burst refresh (normal refresh mode) current	I _{DD5B}	248	mA
Burst refresh (fine granularity refresh mode) current	I _{DD5F}	160	mA
Burst refresh (same bank refresh mode) current	I _{DD5C}	113	mA
Self refresh current	I _{DD6N}	31	mA
Operating bank interleave read current	I _{DD7}	634	mA
Maximum power saving deep power down mode current	I _{DD8}	23	mA



8GB (x64, SR) 262-Pin DDR5 SODIMM Functional Block Diagram

Functional Block Diagram

Figure 2: Functional Block Diagram



- Notes:
1. The ZQ ball on each DDR5 component is connected to an external $240\Omega \pm 1\%$ resistor that is tied to ground. It is used for the calibration of the component's ODT and output driver.
 2. Functional block diagram is for reference only.



Revision History

Rev. B – 08/2021

- Production Release

Rev. A – 01/2021

- Preliminary Release

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This data sheet contains minimum and maximum limits specified over the power supply and temperature range set forth herein.
Although considered final, these specifications are subject to change, as further product development and data characterization sometimes occur.