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CY62187G30 MoBL

64-Mbit (4M words × 16-bit) Static RAM with Error-Correcting Code (ECC)

Features

- Ultra-low standby current
 □ Typical standby current: 6 µA
 □ Maximum standby current: 38 µA
- High speed: 55 ns
- Embedded error-correcting code (ECC) for single-bit error correction^[1]
- Operating voltage range: 2.2 V to 3.6 V
- 1.0-V data retention
- Transistor-transistor logic (TTL) compatible inputs and outputs
- Error indication (ERR) pin to indicate 1-bit error detection and correction
- Available in Pb-free 48-ball VFBGA package

Functional Description

CY62187G30 is a high-performance CMOS, low-power (MoBL[®]) SRAM device with embedded $ECC^{[2]}$. This device is offered in Dual Chip Enable option.

To access a Dual Chip Enable device, assert both Chip Enable inputs – \overline{CE}_1 as LOW and CE_2 as HIGH.

To perform data writes, assert the Write Enable (\overline{WE}) input LOW, and provide the data and address on the device data pins (I/O_0 through I/O_{15}) and address pins (A_0 through A_{21}) respectively. The Byte High Enable (BHE) and Byte Low Enable (BLE) inputs control byte writes and write data on the corresponding I/O lines to the memory location specified. BHE controls I/O₈ through I/O₁₅ and BLE controls I/O₀ through I/O₇.

To perform data reads, assert the Output Enable $(\overline{\text{OE}})$ input and provide the required address on the address lines. You can access the read data on the I/O lines (I/O₀ through I/O₁₅). To perform byte accesses, assert the required byte enable signal (BHE or BLE) to read either the upper byte or the lower byte of the data from the specified address location.

All I/Os (I/O₀ through I/O₁₅) are placed in a High-Z state when the device is deselected (CE₁ HIGH / CE₂ LOW for a Dual Chip Enable device), or the control signals are deasserted (\overline{OE} , \overline{BLE} , \overline{BHE}).

These devices have a unique byte power-down feature where, when both Byte Enables (BHE and BLE) are disabled, the devices seamlessly switch to the standby mode irrespective of the state of the Chip Enables, thereby saving power.

CY62187G30 is available in a Pb-free 48-ball VFBGA package. See Logic Block Diagram – CY62187G30 on page 2.

For a complete list of related documentation, click here.

Product Portfolio

| | Product | | | | | C | urrent Con | sumption | |
|--|------------|---|------------|---------------------------|-------------|--|------------|--------------------------------|-----|
| | | Features and Options (see Pin Configuration – CY62187G30) | Range | V _{CC} Range (V) | Spood (ps) | $\begin{array}{c c} \textbf{Operating } I_{CC}, \ (mA) & Si \\ \hline f = f_{max} & \end{array}$ | | Standby, I _{SB2} (µA) | |
| | FIGURE | | Kange | | Speed (IIS) | | | | |
| | | | | | | Typ ^[3] | Max | Typ ^[3] | Max |
| | CY62187G30 | Dual Chip Enable | Industrial | 2.2 V–3.6 V | 55 | 40 | 55 | 6 | 38 |

Notes

- 1. SER FIT rate <0.1 FIT/Mb. Refer to AN88889 for details.
- 2. This device does not support automatic write-back on error detection.

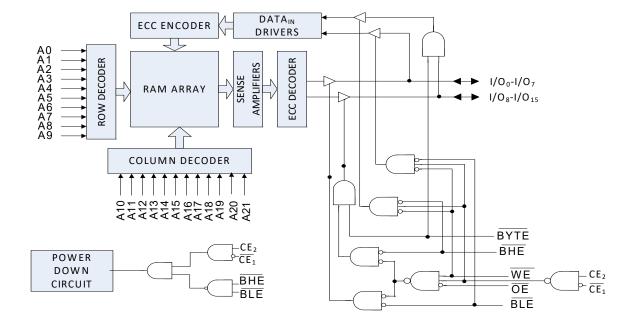
3. Typical values are included only for reference and are not guaranteed or tested. Typical values are measured at V_{CC} = 3 V (for V_{CC} range of 2.2 V–3.6 V), T_A = 25°C.

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Logic Block Diagram – CY62187G30





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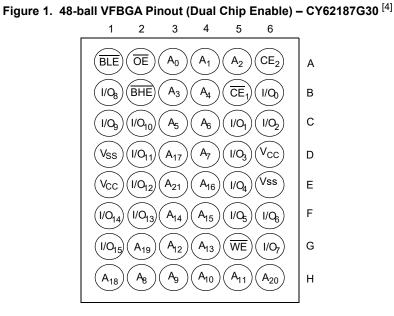
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Pin Configuration – CY62187G30



^{4.} NC pins are not connected internally to the die and are typically used for address expansion to a higher-density device. Refer to the respective datasheets for pin configuration.

^{5.} Tie the BYTE pin in the 48-pin TSOP I package to V_{CC} to use the device as a 2M × 16 SRAM. The 48-pin TSOP I package can also be used as a 4M × 8 SRAM by tying the BYTE signal to V_{SS}. In the 4M × 8 configuration, pin 45 is the extra address line A21, while BHE, BLE, and I/O₈ to I/O₁₄ pins are not used and can be left floating.



Maximum Ratings

Exceeding maximum ratings may shorten the useful life of the device. User guidelines are not tested.

| Storage temperature65 °C to + 150 °C | |
|--|--|
| Ambient temperature with power applied–55 °C to + 125 °C | |
| Supply voltage to ground potential–0.5 V to V_{CC} + 0.5 V | |
| DC voltage applied to outputs in High Z state $^{\rm [6]}$ | |

DC Electrical Characteristics

| DC input voltage ^[6] | –0.5 V to V _{CC} + 0.5 V |
|--|-----------------------------------|
| Output current into outputs (LOW) | |
| Static discharge voltage (MIL-STD-883, Method 3015) Latch-up current | |
| | |

Operating Range

| Grade | Ambient Temperature | V_{cc} ^[7] |
|------------|---------------------|--------------------------------------|
| Industrial | –40 °C to +85 °C | 2.2 V to 3.6 V |

| Demonstern | D | | Test Osmilities | | | 55 ns | | 11 | |
|----------------------------------|--|---|--|----------|-------|---------------------------|-----------------------|------|--|
| Parameter | Des | scription | Test Condition | 15 | Min | Typ ^[8] | Max | Unit | |
| Ň | Output HIGH | 2.2 V to 2.7 V | V _{CC} = Min, I _{OH} = –0.1 mA | | 2.0 | _ | - | | |
| V _{OH} | voltage | 2.7 V to 3.6 V | V_{CC} = Min, I_{OH} = -1.0 mA | | 2.4 | _ | - | | |
| N/ | Output LOW | 2.2 V to 2.7 V | V _{CC} = Min, I _{OL} = 0.1 mA | | - | - | 0.4 | | |
| V _{OL} | voltage | 2.7 V to 3.6 V | V _{CC} = Min, I _{OL} = 2.1 mA | | _ | _ | 0.4 | V | |
| N/ | Input HIGH | 2.2 V to 2.7 V | - | | 1.8 | - | V _{CC} + 0.3 | V | |
| | voltage ^[6] | 2.7 V to 3.6 V | - | | 2.0 | - | V _{CC} + 0.3 | | |
| | Input LOW | 2.2 V to 2.7 V | - | | -0.3 | _ | 0.6 | | |
| | voltage ^[6] | 2.7 V to 3.6 V | - | | -0.3 | _ | 0.8 | | |
| I _{IX} | | | $GND \leq V_{IN} \leq V_{CC}$ | | -1.0 | _ | +1.0 | | |
| I _{OZ} | | | $GND \leq V_{OUT} \leq V_{CC}$, Output disabled | | -1.0 | _ | +1.0 | μA | |
| lee | I _{CC} V _{CC} operating supply current | V _{CC} = Max, I _{OUT} = 0 mA, (4 CMOS levels | f = 22.22 MHz (45 ns) | _ | 40 | 55.0 | mA | | |
| I _{CC} | | | f = 1 MHz | - | 15 | 38.0 | | | |
| I _{SB1} ^[11] | Automatic Po Current – CM V _{CC} = 2.2 V te | OS Inputs; | $\label{eq:cell} \begin{split} \overline{\text{CE}}_1 &\geq \text{V}_{\text{CC}} - 0.2 \text{ V or } \text{CE}_2 \leq 0.2 \text{ V} \\ \text{or } (\overline{\text{BHE}} \text{ and } \overline{\text{BLE}}) &\geq \text{V}_{\text{CC}} - 0.2 \text{ V} \\ \text{V}_{\text{IN}} &\geq \text{V}_{\text{CC}} - 0.2 \text{ V}, \text{V}_{\text{IN}} \leq 0.2 \text{ V}, \\ \text{f} &= \text{f}_{\text{max}} \text{ (address and data only)} \\ \text{f} &= 0 \ (\overline{\text{OE}}, \text{ and } \overline{\text{WE}}), \text{V}_{\text{CC}} = \text{V}_{\text{CC}} \end{split}$ | V, I, | - | 12.0 | 38.0 | μΑ | |
| | | | | _ | - | _ | - | | |
| | | $\overline{CE}_1 \ge V_{CC} - 0.2V$ or | - | - | - | - |] | | |
| | | | CE ₂ <u><</u> 0.2 V or | _ | - | - | - | | |
| I _{SB2} ^[11] | Current – CM | omatic Power-down rent – CMOS Inputs | $(\overline{BHE} \text{ and } \overline{BLE}) \ge V_{CC} - 0.2 \text{ V},$ | | | | μA | | |
| | V_{CC} = 2.2 V to | 5 5.0 V | $V_{IN} \ge V_{CC} - 0.2 V \text{ or}$ | _ | _ | 6.0 | 38.0 | | |
| | | | $V_{IN} \leq 0.2 V$, | | - 0.0 | 00.0 | | | |
| | | | $f = 0, V_{CC} = V_{CC(max)}$ | | | | | | |

Over the operating range of -40°C to 85°C

Notes

V_{IL(min)} = -2.0 V and V_{IH(max)} = V_{CC} + 2 V for pulse durations of less than 20 ns.
 Full device AC operation assumes a 100-µs ramp time from 0 to V_{CC} (min) and 400-µs wait time after V_{CC} stabilizes to its operational value.
 Indicates the value for the center of distribution at 3.0 V, 25°C and not 100% tested.
 Chip enables (CE₁ and CE₂) and BYTE must be tied to CMOS levels to meet the I_{SB1} / I_{SB2} / I_{CCDR} spec. Other inputs can be left floating.
 The I_{SB2} maximum limits at 25 °C, 40 °C, and 70 °C are guaranteed by design and not 100% tested.



Capacitance

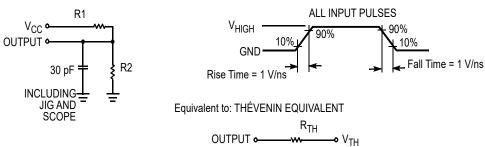
| Parameter ^[11] | Description | Test Conditions | Мах | Unit |
|---------------------------|--------------------|--|------|------|
| C _{IN} | Input capacitance | $T_A = 25 \text{ °C, } f = 1 \text{ MHz, } V_{CC} = V_{CC(typ)}$ | 15.0 | pF |
| C _{OUT} | Output capacitance | | 15.0 | pF |

Thermal Resistance

| Parameter ^[11] | Description | Test Conditions | 48-ball VFBGA | Unit |
|---------------------------|---|---|---------------|------|
| (H) | Thermal resistance (junction to ambient) | Still air, soldered on a 3 × 4.5 inch, four-layer | 82.6 | °C/W |
| 6 | Thermal resistance (junction to case) | printed circuit board | 10.8 | °C/W |

AC Test Loads and Waveforms





| Parameters | 2.5 V | 3.0 V | Unit |
|-------------------|-------|-------|------|
| R1 | 16667 | 1103 | Ω |
| R2 | 15385 | 1554 | Ω |
| R _{TH} | 8000 | 645 | Ω |
| V _{TH} | 1.20 | 1.75 | V |
| V _{HIGH} | 2.5 | 3.0 | V |



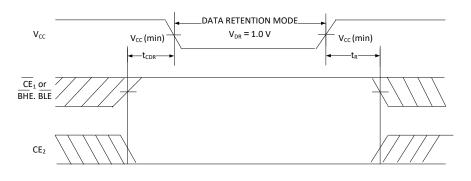
Data Retention Characteristics

Over the Operating Range

| Parameter | Description | Conditions | Min | Тур ^[12] | Max | Unit |
|---------------------------------------|--------------------------------------|--|------|---------------------|------|------|
| V _{DR} | V _{CC} for data retention | _ | 1.5 | - | - | V |
| . [13 14] | | $\begin{array}{l} 2.2 \ V < V_{CC} \leq 3.6 \ V \\ \hline \overline{CE}_1 \geq V_{CC} - 0.2 \ V \ \text{or} \ CE_2 \leq 0.2 \ V \\ \hline \text{or} \ (\overline{BHE} \ \text{and} \ \overline{BLE}) \geq V_{CC} - 0.2 \ V, \\ V_{\text{IN}} \geq V_{CC} - 0.2 \ V \ \text{or} \ V_{\text{IN}} \leq 0.2 \ V \end{array}$ | _ | 6.0 | 38.0 | μΑ |
| I _{CCDR} ^[13, 14] | Data retention current | $\begin{split} 1.5 \ V &\leq V_{CC} \leq 2.2 \ V, \\ \overline{CE}_1 &\geq V_{CC} - 0.2 \ V \ \text{or} \ CE_2 &\leq 0.2 \ V \\ \text{or} \ (\overline{BHE} \ \text{and} \ \overline{BLE}) &\geq V_{CC} - 0.2 \ V, \\ V_{IN} &\geq V_{CC} - 0.2 \ V \ \text{or} \ V_{IN} &\leq 0.2 \ V \end{split}$ | _ | _ | 48.0 | |
| t _{CDR} ^[15] | Chip deselect to data retention time | - | 0.0 | _ | _ | - |
| t _R ^[15, 16] | Operation recovery time | - | 55.0 | - | - | ns |

Data Retention Waveform

Figure 3. Data Retention Waveform ^[17]



- 12. Indicates the value for the center of distribution at 3.0 V, 25° C and not 100% tested.
- 13. Chip Enables (CE₁ and CE₂) and BYTE must be tied to CMOS levels to meet the I_{SB1} / I_{SB2} / I_{CCDR} spec. Other inputs can be left floating.
- 14. I_{CCDR} is guaranteed only after the device is first powered up to $V_{CC(min)}$ and then brought down to V_{DR} .
- 15. These parameters are guaranteed by design and are not tested.
- 16. Full-device operation requires linear V_{CC} ramp from V_{DR} to $V_{CC(min)} \ge 400 \ \mu s$ or stable at $V_{CC(min)} \ge 400 \ \mu s$. 17. BHE BLE is the AND of both BHE and BLE. Deselect the chip by either disabling the chip enable signals or by disabling both BHE and BLE.



Switching Characteristics

| Parameter ^[18] | Description | 55 | ns | Unit |
|---------------------------------|--|------|------|------|
| | Description – | Min | Max | Unit |
| Read Cycle | | | | |
| t _{RC} | Read cycle time | 55.0 | - | ns |
| t _{AA} | Address to data valid / Address to ERR valid | - | 55.0 | ns |
| t _{OHA} | Data hold from address change / ERR hold from address change | 10.0 | - | ns |
| t _{ACE} | \overline{CE}_1 LOW and CE_2 HIGH to data valid / \overline{CE} LOW to ERR valid | - | 55.0 | ns |
| t _{DOE} | OE LOW to data valid / OE LOW to ERR valid | _ | 25.0 | ns |
| t _{LZOE} | OE LOW to low Z ^[19, 20] | 5.0 | - | ns |
| t _{HZOE} | OE HIGH to High-Z ^[19, 20, 21] | _ | 18.0 | ns |
| t _{LZCE} | CE ₁ LOW and CE ₂ HIGH to low Z ^[19, 20] | 10.0 | - | ns |
| t _{HZCE} | CE ₁ HIGH and CE ₂ LOW to High-Z ^[19, 20, 21] | _ | 18.0 | ns |
| t _{PU} | CE ₁ LOW and CE ₂ HIGH to power-up ^[22] | 0.0 | _ | ns |
| t _{PD} | CE ₁ HIGH and CE ₂ LOW to power-down ^[22] | _ | 55.0 | ns |
| t _{DBE} | BLE / BHE LOW to data valid | _ | 55.0 | ns |
| t _{LZBE} | BLE / BHE LOW to low Z ^[19] | 5.0 | - | ns |
| t _{HZBE} | BLE / BHE HIGH to High-Z ^[19, 21] | _ | 18.0 | ns |
| Write Cycle ^[23, 24] | | | | L |
| t _{WC} | Write cycle time | 55.0 | - | ns |
| t _{SCE} | CE ₁ LOW and CE ₂ HIGH to write end | 40.0 | _ | ns |
| t _{AW} | Address setup to write end | 40.0 | _ | ns |
| t _{HA} | Address hold from write end | 0 | _ | ns |
| t _{SA} | Address setup to write start | 0 | - | ns |
| t _{PWE} | WE pulse width | 40.0 | - | ns |
| t _{BW} | BLE / BHE LOW to write end | 40.0 | - | ns |
| t _{SD} | Data setup to write end | 25.0 | - | ns |
| t _{HD} | Data hold from write end | 0.0 | - | ns |
| t _{HZWE} | WE LOW to High-Z ^[19, 20, 21] | _ | 18.0 | ns |
| t _{LZWE} | WE HIGH to low Z ^[19, 20] | 10.0 | - | ns |

Notes

18. Test conditions assume signal transition time (rise/fall) of 3 ns or less, timing reference levels of 1.5 V (for V_{CC} ≥ 3 V) and V_{CC}/2 (for V_{CC} < 3 V), and input pulse levels of 0 to 3 V (for V_{CC} ≥ 3 V) and 0 to V_{CC} (for V_{CC} < 3V). Test conditions for the read cycle use the output loading shown in Figure 2 on page 6, unless specified otherwise.

19. At any temperature and voltage condition, t_{HZCE} is less than t_{LZCE} , t_{HZBE} is less than t_{LZBE} , t_{HZOE} is less than t_{LZOE} , and t_{HZWE} is less than t_{LZWE} for any device. 20. Tested initially and after any design or process changes that may affect these parameters.

21. t_{HZOE}, t_{HZCE}, t_{HZBE}, and t_{HZWE} transitions are measured when the outputs enter a high-impedance state.

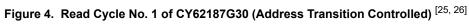
22. These parameters are guaranteed by design and are not tested.

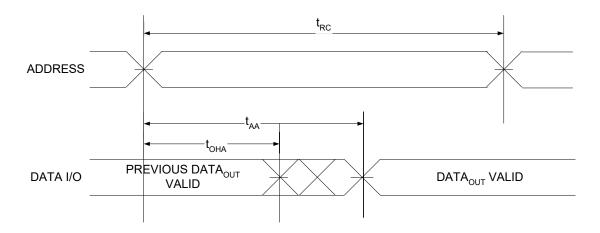
23. The internal write time of the memory is defined by the overlap of $\overline{WE} = V_{IL}$, $\overline{CE}_1 = V_{IL}$, \overline{BHE} or \overline{BLE} or both = V_{IL} , and $CE_2 = V_{IH}$. All signals must be ACTIVE to initiate a write and any of these signals can terminate a write by going INACTIVE. The data input setup and hold timing must refer to the edge of the signal that terminates the write terminates the write.

24. The minimum write cycle pulse width for Write Cycle No. 1 (WE Controlled, OE LOW) should be equal to the sum of t_{HZWE} and t_{SD}.

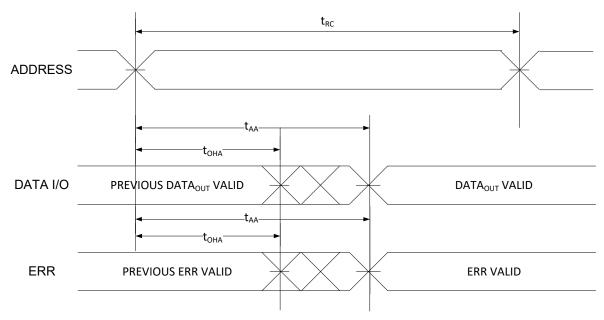


Switching Waveforms









Notes 25. The device is continuously selected. $\overline{OE} = V_{1L}$, $\overline{CE} = V_{1L}$, \overline{BHE} or \overline{BLE} , or both = V_{1L} .

26. WE is HIGH for read cycle.





Switching Waveforms (continued)

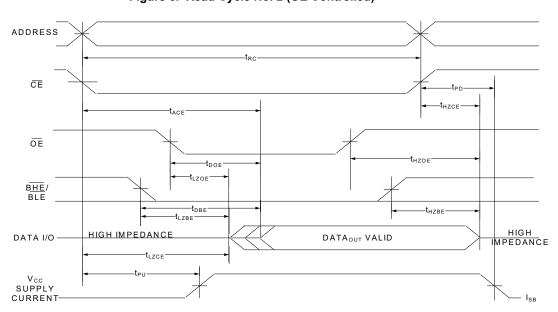
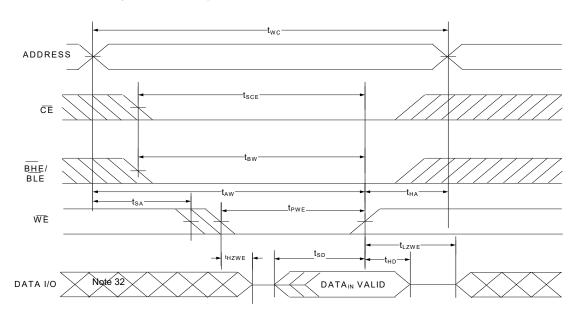


Figure 6. Read Cycle No. 2 (OE Controlled) ^[27, 28, 29, 31]

Figure 7. Write Cycle No. 1 (WE Controlled, OE LOW) ^[28, 30, 31, 32]



Note<u>s</u>

27. WE is HIGH for read cycle.

28. For all Dual Chip Enable devices, CE is the logical combination of CE₁ and CE₂. When CE₁ is LOW and CE₂ is HIGH, CE is LOW; when CE₁ is HIGH or CE₂ is LOW, CE is HIGH.

29. Address valid prior to or coincident with $\overline{\text{CE}}$ LOW transition.

30. The internal write time of the memory is defined by the overlap of $\overline{WE} = V_{IL}$, $\overline{CE}_1 = V_{IL}$, \overline{BHE} or \overline{BLE} , or both = V_{IL} , and $CE_2 = V_{IH}$. All signals must be ACTIVE to initiate a write and any of these signals can terminate a write by going INACTIVE. The data input setup and hold timing must refer to the edge of the signal that terminates the write.

31. Data I/O is in the High-Z state if $\overline{CE} = V_{IH}$, or $\overline{OE} = V_{IH}$, or \overline{BHE} , and/or $\overline{BLE} = V_{IH}$.

32. During this period, the I/Os are in the output state. Do not apply input signals.

33. The minimum write cycle pulse width should be equal to the sum of t_{HZWE} and t_{SD} .



Switching Waveforms (continued)

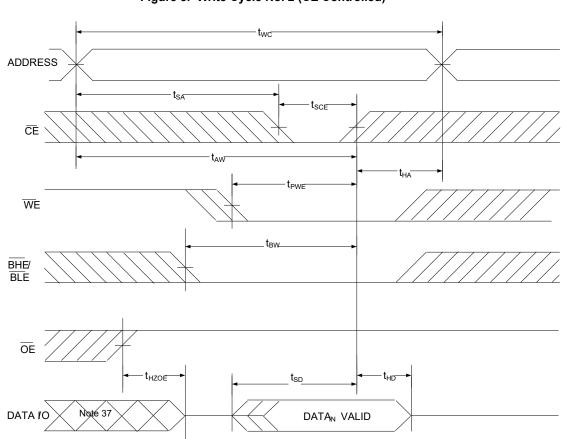


Figure 8. Write Cycle No. 2 (CE Controlled) [34, 35, 36]

- 34. For all Dual Chip Enable devices, \overline{CE} is the logical combination of \overline{CE}_1 and CE_2 . When \overline{CE}_1 is LOW and CE_2 is HIGH, \overline{CE} is LOW; when \overline{CE}_1 is HIGH or CE_2 is LOW, \overline{CE} is HIGH.
- 35. The internal write time of the memory is defined by the overlap of $\overline{WE} = V_{IL}$, $\overline{CE}_1 = V_{IL}$, \overline{BHE} or \overline{BLE} or both = V_{IL} , and $CE_2 = V_{IH}$. All signals must be ACTIVE to initiate a write. Any of these signals can terminate a write by going INACTIVE. The data input setup and hold timing must refer to the edge of the signal that terminates the write. 36. Data I/O is in the High-Z state if $\overline{CE} = V_{IH}$, or $\overline{OE} = V_{IH}$, or \overline{BHE} , and/or $\overline{BHE} = V_{IH}$.
- 37. During this period, the I/Os are in output state. Do not apply input signals.



Switching Waveforms (continued)

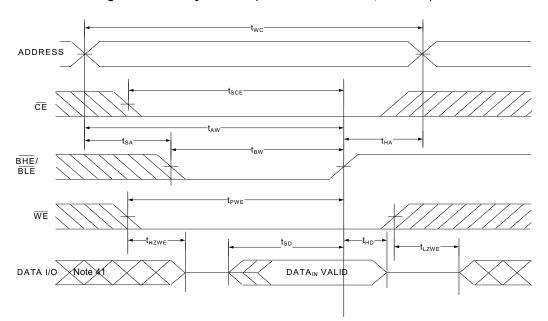
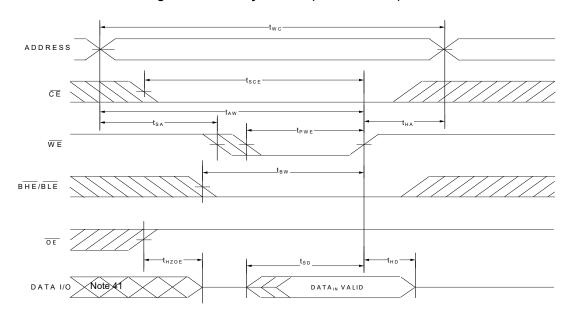


Figure 9. Write Cycle No. 4 ($\overline{\text{BHE}}/\overline{\text{BLE}}$ Controlled, $\overline{\text{OE}}$ LOW) [38, 39, 40]

Figure 10. Write Cycle No. 5 (WE Controlled) ^[38, 39, 40]



- 38. For all Dual Chip Enable devices, CE is the logical combination of CE₁ and CE₂. When CE₁ is LOW and CE₂ is HIGH, CE is LOW; when CE₁ is HIGH or CE₂ is LOW, CE is HIGH.
- 39. The internal write time of the memory is defined by the overlap of $\overline{WE} = V_{IL}$, $\overline{CE}_1 = V_{IL}$, \overline{BHE} or \overline{BLE} or both = V_{IL} , and $CE_2 = V_{IH}$. All signals must be ACTIVE to initiate a write. Any of these signals can terminate a write by going INACTIVE. The data input setup and hold timing must refer to the edge of the signal that terminates the write.
- 40. Data I/O is in the High-Z state if $\overline{CE} = V_{IH}$, or $\overline{OE} = V_{IH}$, or \overline{BHE} , and/or $\overline{BLE} = V_{IH}$.
- 41. During this period, the I/Os are in output state. Do not apply input signals.





Truth Table – CY62187G30

| CE ₁ | CE ₂ | WE | OE | BHE | BLE | Inputs/Outputs | Mode | Power |
|-------------------|-------------------|----|----|-----|-----|--|---------------------|----------------------------|
| Н | X ^[42] | Х | Х | Х | Х | High-Z | Deselect/Power-down | Standby (I _{SB}) |
| X ^[42] | L | Х | Х | Х | Х | High-Z | Deselect/Power-down | Standby (I _{SB}) |
| X ^[42] | X ^[42] | Х | Х | Н | Н | High-Z | Deselect/Power-down | Standby (I _{SB}) |
| L | н | Н | L | L | L | Data Out (I/O ₀ –I/O ₁₅) | Read | Active (I _{CC}) |
| L | Н | Н | L | Н | L | Data Out (I/O ₀ –I/O ₇); High-Z (I/O ₈ –I/O ₁₅) | Read | Active (I _{CC}) |
| L | Н | Н | L | L | Н | High-Z (I/O ₀ –I/O ₇); Data Out (I/O ₈ –I/O ₁₅) | Read | Active (I _{CC}) |
| L | н | Н | Н | L | Н | High-Z | Output disabled | Active (I _{CC}) |
| L | н | Н | Н | н | L | High-Z | Output disabled | Active (I _{CC}) |
| L | н | Н | Н | L | L | High-Z | Output disabled | Active (I _{CC}) |
| L | н | L | Х | L | L | Data In (I/O ₀ –I/O ₁₅) | Write | Active (I _{CC}) |
| L | н | L | х | н | L | Data In (I/O ₀ –I/O ₇); High-Z (I/O ₈ –I/O ₁₅) | Write | Active (I _{CC}) |
| L | Н | L | Х | L | Н | High-Z (I/O ₀ –I/O ₇); Data In (I/O ₈ –I/O ₁₅) | Write | Active (I _{CC}) |

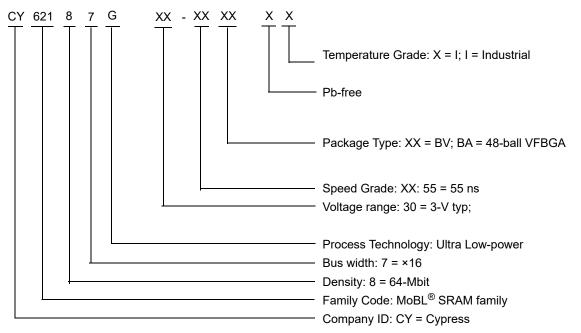
42. The 'X' (Don't care) state for the Chip Enables refers to the logic state (either HIGH or LOW). Intermediate voltage levels on these pins are not permitted.



Ordering Information

| Speed | Voltage | Ordering Code | Package | Package Type | Key Features / | Operating |
|-------|-------------|-------------------|-----------|---------------|------------------|------------|
| (ns) | Range | | Diagram | (all Pb-free) | Differentiators | Range |
| 55 | 2.2 V–3.6 V | CY62187G30-55BAXI | 001-50044 | 48-ball VFBGA | Dual Chip Enable | Industrial |

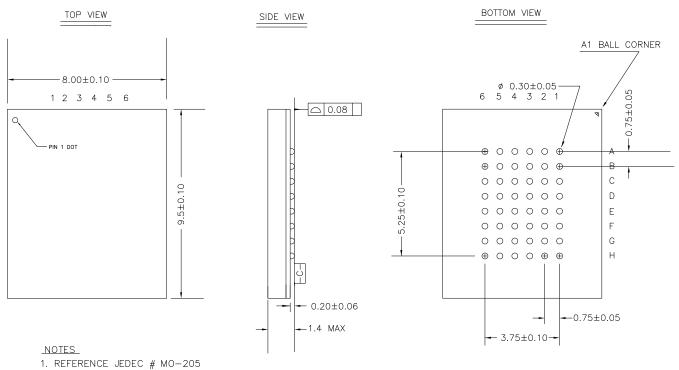
Ordering Code Definitions





Package Diagram





2. ALL DIMENSIONS ARE IN MILLIMETERS

001-50044 *D





Acronyms

Table 1. Acronyms Used in this Document

| Acronym | Description |
|---------|---|
| BHE | Byte High Enable |
| BLE | Byte Low Enable |
| CE | Chip Enable |
| CMOS | Complementary metal oxide semiconductor |
| I/O | Input/output |
| OE | Output Enable |
| SRAM | Static random access memory |
| TSOP | Thin small outline package |
| VFBGA | Very fine-pitch ball grid array |
| WE | Write Enable |

Document Conventions

Units of Measure

Table 2. Units of Measure

| Symbol | Unit of Measure |
|--------|-----------------|
| °C | degree Celsius |
| MHz | megahertz |
| μA | microampere |
| μs | microsecond |
| mA | milliampere |
| mm | millimeter |
| ns | nanosecond |
| Ω | ohm |
| % | percent |
| pF | picofarad |
| V | volt |
| W | watt |



Document History Page

Document Title: CY62187G30 MoBL, 64-Mbit (4M words × 16-bit) Static RAM with Error-Correcting Code (ECC) Document Number: 002-24731

| Rev. | ECN | Submission Date | Description of Change |
|------|---------|--------------------|--|
| *A | 6714290 | 10/30/2019 | Updated maximum standby current value in Features, Product Portfolio, and DC Electrical Characteristics. Updated Icc maximum value in Product Portfolio and DC Electrical Characteristics. Updated Icc @ 1MHz maximum value in DC Electrical Characteristics. Updated Data Retention Characteristics. Added Thermal Resistance values. Added Package Diagram spec 001-50044. |
| *В | 6883183 | 05/28/2020 | Moved datasheet status from Preliminary to Final. Removed CY62187G30-55BAXIT from Ordering Information. Updated Ordering Code Definitions. |



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