

6.3.2.2 Bank and Row ACTIVATE Command (ACT)

Before a READ or WRITE command can be issued to a bank, a row in that bank must be opened. This is accomplished via the ACTIVATE command, which selects both the bank and the row to be activated. Once a row is open, a READ or WRITE command could be issued to that row, subject to the t_{RCD} specification.

The ACTIVATE command is a 2-cycle command as shown in Figure 16. The actual bank and row activation is initiated with the second clock cycle; therefore all relevant timing parameters refer to this second clock cycle as shown in subsequent timing diagrams.

Parity is evaluated on all R[5:0] inputs separately on both clock cycles of the ACT command when the parity calculation is enabled in the Mode Register.

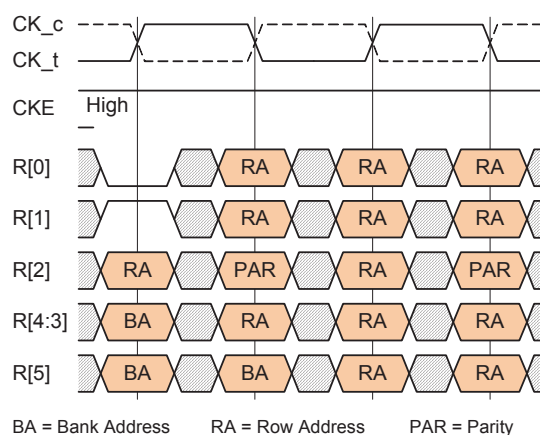


Figure 16 — ACTIVATE Command

A subsequent ACTIVATE command to another row in the same bank can only be issued after the previous active row has been closed (precharged). The minimum time interval between successive ACTIVATE commands to the same bank is defined by t_{RC} , as shown in Figure 17. A minimum time t_{RAS} must have elapsed between opening and closing a row.

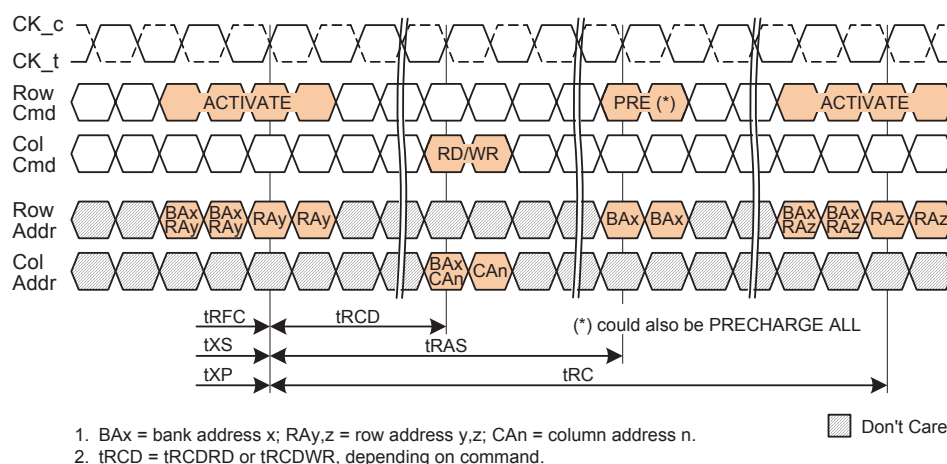


Figure 17 — Bank and Row Activation Command Cycle

A subsequent ACTIVATE command to another bank can be issued while the first bank is being accessed, which results in a reduction of total row-access overhead. The minimum time interval between successive ACTIVATE commands to different banks is defined by t_{RRD} . The row remains active until a PRECHARGE command (or READ or WRITE command with Auto Precharge) is issued to the bank.