|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cases | A | B | S1 | S0 | G |
| A (AND) | 0/1/1 | 0/0/1 | 0 | 0 | 0/0/1 |
| B (OR) | 0/1/0/1 | 0/0/1/1 | 0 | 1 | 0/1/1/1 |
| C (XOR) | 0/0/1/1 | 0/1/0/1 | 1 | 0 | 0/1/1/0 |
| D (NOT) | 0/1 | X | 1 | 1 | 1/0 |

The single bit logic circuit applies uses the inputs S0 and S1 to alternate between logic operations: AND, OR, XOR, and a NOT operation on input A.