|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Decimal degit | W | X | Y | Z | A | B | C | D |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 3 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| 4 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 5 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 6 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| 7 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 8 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 9 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 10 | 1 | 0 | 1 | 0 | X 1 | X 1 | X 0 | X 1 |
| 11 | 1 | 0 | 1 | 1 | X 1 | X 1 | X 1 | X 0 |
| 12 | 1 | 1 | 0 | 0 | X 1 | X 1 | X 1 | X 1 |
| 13 | 1 | 1 | 0 | 1 | X 0 | X 1 | X 1 | X 0 |
| 14 | 1 | 1 | 1 | 0 | X 0 | X 0 | X 0 | X 1 |
| 15 | 1 | 1 | 1 | 1 | X 0 | X 0 | X 1 | X 0 |

|  |  |
| --- | --- |
| BCD | EXCESS 3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Y’Z’ | Y’Z | YZ | YZ” |
| W’X’ | 0 | 0 | 0 | 0 |
| W’X | 0 | 1 | 1 | 1 |
| WX | x | x | x | x |
| WX’ | 1 | 1 | x | x |

A=W+XZ+XY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Y’Z’ | Y’Z | YZ | YZ’ |
| W’X’ | 0 | 1 | 1 | 1 |
| W’X | 1 | 0 | 0 | 0 |
| WX | x | x | x | x |
| WX’ | 0 | 1 | x | x |

B=X’Z+X’Y+XY’Z’

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Y’Z’ | Y’Z | YZ | YZ’ |
| W’X’ | 1 | 0 | 1 | 0 |
| W’X | 1 | 0 | 1 | 0 |
| WX | x | x | x | x |
| WX’ | 1 | 0 | x | x |

C=Y’Z’+YZ

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Y’Z’ | Y’Z | YZ | YZ’ |
| W’X’ | 1 | 0 | 0 | 1 |
| W’X | 1 | 0 | 0 | 1 |
| WX | x | x | x | x |
| WX’ | 1 | 0 | x | x |

D=Z’