

```

1: library STD;
2: library IEEE;
3: use IEEE.std_logic_1164.all;
4:
5: entity Cache_Cell_Tag is
6:     port(
7:         Data      : in  std_logic_vector(2 downto 0);
8:         Tag_Wr     : in  std_logic; --tag wr enable
9:         reset      : in  std_logic;
10:        Gnd        : in  std_logic;
11:        Output     : out std_logic_vector(2 downto 0);
12:        Row_En     : in  std_logic
13:    );
14: end Cache_Cell_Tag;
15:
16: architecture structural of Cache_Cell_Tag is
17:
18:     component Cache_Cell
19:     port(
20:         Data      : in  std_logic;
21:         W_En      : in  std_logic;
22:         reset      : in  std_logic;
23:         Gnd        : in  std_logic;
24:         Output     : out std_logic;
25:         Rd_En     : in  std_logic;
26:         nRd_En    : in  std_logic
27:     );
28:     end component;
29:
30:     component and2
31:     port(
32:         in1        : in  std_logic;
33:         in2        : in  std_logic;
34:         out1       : out std_logic
35:     );
36:     end component;
37:
38:     component or2
39:     port(
40:         in1        : in  std_logic;
41:         in2        : in  std_logic;
42:         out1       : out std_logic
43:     );
44:     end component;
45:
46:     component invX1
47:     port(
48:         in1        : in  std_logic;
49:         out1       : out std_logic
50:     );
51:     end component;
52:
53:     signal Wr_En    : std_logic;
54:     signal nRd_En   : std_logic;
55:
56:     for nrd : invX1 use entity work.invX1(structural);
57:     for cell0, cell1, cell2 : Cache_Cell use entity work.Cache_Cell(structur
al);
58:
59: begin
60:
61:     nrd      : invX1      port map(Row_En, nRd_En);
62:
63:     cell0    : Cache_Cell port map(Data(0), Tag_Wr, reset, Gnd, Output(0), R
ow_En, nRd_En);
64:     cell1    : Cache_Cell port map(Data(1), Tag_Wr, reset, Gnd, Output(1), R
ow_En, nRd_En);
65:     cell2    : Cache_Cell port map(Data(2), Tag_Wr, reset, Gnd, Output(2), R
ow_En, nRd_En);
66:
67: end structural;

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