

TITLE ABC Drivers select signals for U15
 PATTERN
 REVISION 2
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 COMPANY
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CHIP ABC_GAL PALCE22V10 ; Device not selected

;----- PIN Declarations -----

;----- INPUT SIGNALS -----

Pin 1 NC
 Pin 2 bpDBIN ;S100 bus data in
 PIN 3 bpWR ;<--- LOW if S100 bus write
 PIN 4 bsXTRQ ;<--- LOW if 16 bit request
 Pin 5 IOCS16
 Pin 6 ISA_SEL ;ISA board select (HIGH)
 Pin 7 MEMCS16
 PIN 8 bsMWRT ;S100 memory write status
 PIN 9 bsMEMR ;S100 memory read status
 PIN 10 bsOUT ;S100 I/O write status
 PIN 11 bsINP ;S100 I/O read Status
 Pin 13 sINTA ;S100 INTA

;----- OUTPUT SIGNALS -----

PIN 14 DUAL_REQUEST ;HIGH if we need two 8 bit back to back bytes
 PIN 15 C_SIGNAL
 PIN 16 B_SIGNAL
 PIN 17 A_SIGNAL
 PIN 18 DIRECTION_2
 PIN 19 DIRECTION_1
 PIN 20 RD8_OE ;LOW---> 8 bit data TO CPU
 PIN 21 RD16_OE ;LOW---> 16 bit data TO CPU
 PIN 22 WR8_OE ;LOW---> 8 bit data FROM CPU
 PIN 23 WR16_OE ;LOW---> 8 bit data FROM CPU

;----- Boolean Equation Segment -----

EQUATIONS

/RD8_OE = ISA_SEL * bpDBIN * bsXTRQ ;8 RD (Active LOW)
 /WR8_OE = ISA_SEL * /bpWR * bsXTRQ ;8 WR (Active LOW)

/RD16_OE = ISA_SEL * bpDBIN * /bsXTRQ ;16 RD (Active LOW)
 /WR16_OE = ISA_SEL * /bpWR * /bsXTRQ ;16 WR (Active LOW)

/A_SIGNAL = bsMEMR * /RD8_OE ;READ 8 from U26
 + bsINP * /RD8_OE

/DIRECTION_1 = /RD8_OE ;LOW, READ 8 bits, U26, Set pin 1 direction
 B -> A
 + /RD16_OE ;LOW, READ ODD 16 bits, U25, Set pin 1
 direction A -> B

/B_SIGNAL = bsMWRT * /WR8_OE ;WRITE 8 bits via U27
 + bsOUT * /WR8_OE
 + bsMWRT * /WR16_OE * /MEMCS16 ;WRITE 16 bits via U27
 + bsOUT * /WR16_OE * /IOCS16
 + bsMEMR * /RD16_OE * /MEMCS16 ;WRITE 16 bits via U27
 + bsINP * /RD16_OE * /IOCS16

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                                ABC_GAL2.PDS
DIRECTION_2 = /WR8_OE ;HIGH, WRITE 8 bits, U27, Set pin 1
direction A -> B
+ /WR16_OE ;HIGH, WRITE 16 bits, U27, Set pin 1
direction A -> B

/C_SIGNAL = bsMWRT * /WR16_OE * /MEMCS16 ;WRITE 16 bits via U27
+ bsOUT * /WR16_OE * /IOCS16
+ bsMEMR * /RD16_OE * /MEMCS16 ;READ 16 bits via U27
+ bsINP * /RD16_OE * /IOCS16

DUAL_REQUEST = ISA_SEL * /bsXTRQ ;HIGH if we cannot do 16 bits,

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