CFD16C Pin Out

Pin number: 1
Pin name: **DO[0]**
Pin type: Digital output
Description: Channel 0 CFD output

Pin number: 2
Pin name: **OR**
Pin type: Digital output
Description: Logical OR of all 16 CFD outputs

Pin number: 3
Pin name: **BDIR**
Pin type: Digital input
Description: Bidirectional pad control. Must be held HIGH when bidirectional bus (AD[0]-AD[7]) is desired to be input. Must be held LOW when bidirectional bus is desired to be output.

Pin number: 4
Pin name: **LE[2]**
Pin type: Digital output
Description: Channel 2 leading-edge detector output.

Pin number: 5
Pin name: **LE[1]**
Pin type: Digital output
Description: Channel 1 leading-edge detector output.

Pin number: 6
Pin name: **LE[0]**
Pin type: Digital output
Description: Channel 0 leading-edge detector output.

Pin number: 7
Pin name: **AD[7]**
Pin type: Bidirectional
Description: Address/Data bus. During input bit 3 (MSB) of Address is latched on the rising edge of STB (pin 37). Data bit 7 is latched on the falling edge of STB. During output the leading edge detector output from channel 15 is present on the pin.

Pin number: 8
Pin name: **AD[6]**
Pin type: Bidirectional
Description: Address/Data bus. During input bit 2 of Address is latched on the rising edge of STB (pin 37). Data bit 6 is latched on the falling edge of STB. During output the leading edge detector output from channel 14 is present on the pin.

Pin number: 9
Pin name: **AD[5]**
Pin type: Bidirectional
Description: Address/Data bus. During input bit 1 (MSB) of Address is latched on the rising edge of STB (pin 37). Data bit 5 is latched on the falling edge of STB. During output the leading edge detector output from channel 13 is present on the pin.

Pin number: 10
Pin name: **AD[4]**
Pin type: Bidirectional
Description: Address/Data bus. During input bit 0 (LSB) of Address is latched on the rising edge of STB (pin 37). Data bit 4 is latched on the falling edge of STB. During output the leading edge detector output from channel 12 is present on the pin.

Pin number: 11
Pin name: **AD[3]**
Pin type: Bidirectional
Description: Address/Data bus. During input bit 3 (MSB) of Mode is latched on the rising edge of STB (pin 37). Data bit 3 is latched on the falling edge of STB. During output the leading edge detector output from channel 11 is present on the pin.

Pin number: 12
Pin name: **AD[2]**
Pin type: Bidirectional
Description: Address/Data bus. During input bit 2 of Mode is latched on the rising edge of STB (pin 37). Data bit 2 is latched on the falling edge of STB. During output the leading edge detector output from channel 10 is present on the pin.

Pin number: 13
Pin name: **AD[1]**
Pin type: Bidirectional
Description: Address/Data bus. During input bit 1 of Mode is latched on the rising edge of STB (pin 37). Data bit 1 is latched on the falling edge of STB. During output the leading edge detector output from channel 9 is present on the pin.

Pin number: 14
Pin name: **AD[0]**
Pin type: Bidirectional
Description: Address/Data bus. During input bit 0 (LSB) of Mode is latched on the rising edge of STB (pin 37). Data bit 0 is latched on the falling edge of STB. During output the leading edge detector output from channel 8 is present on the pin.

Pin number: 15
Pin name: **N/A**
Pin type: Downbond
Description: Substrate downbond. Connect directly to GND plane.

Pin number: 16
Pin name: **AIN[0]**
Pin type: Analog input
Description: Channel 0 detector input.

Pin number: 17
Pin name: **AIN[1]**
Pin type: Analog input
Description: Channel 1 detector input.

Pin number: 18
Pin name: **AIN[2]**
Pin type: Analog input
Description: Channel 2 detector input.

Pin number: 19
Pin name: **AIN[3]**
Pin type: Analog input
Description: Channel 3 detector input.

Pin number: 20
Pin name: **AIN[4]**
Pin type: Analog input
Description: Channel 4 detector input.

Pin number: 21
Pin name: **AIN[5]**
Pin type: Analog input
Description: Channel 5 detector input.

Pin number: 22
Pin name: **AIN[6]**
Pin type: Analog input
Description: Channel 6 detector input.

Pin number: 23
Pin name: **AIN[7]**
Pin type: Analog input
Description: Channel 7 detector input.

Pin number: 24
Pin name: **AGND**
Pin type: Analog input
Description: Analog ground (1.65 V). Connect to a 1 uF capacitor in parallel with a 1 nF capacitor. For the 1 uF capacitor at the output use the type MKT for best performance. For the 1nF capacitor at the output use the type MKP for best performance. Analog ground can be generated internally or provided externally to this pin by using pin 38 (EXT_AGND).

Pin number: 25
Pin name: **AVSS**
Pin type: Analog supply
Description: Analog circuit ground. Connect to ground plane.

Pin number: 26
Pin name: **AVDD**
Pin type: Analog supply
Description: 3.3V analog supply. Supply for analog pad ring and chip core.

Pin number: 27
Pin name: **AIN[8]**
Pin type: Analog input
Description: Channel 8 detector input.

Pin number: 28
Pin name: **AIN[9]**
Pin type: Analog input
Description: Channel 9 detector input.

Pin number: 29
Pin name: **AIN[10]**
Pin type: Analog input
Description: Channel 10 detector input.

Pin number: 30
Pin name: **AIN[11]**
Pin type: Analog input
Description: Channel 11 detector input.

Pin number: 31
Pin name: **AIN[12]**
Pin type: Analog input
Description: Channel 12 detector input.

Pin number: 32
Pin name: **AIN[13]**
Pin type: Analog input
Description: Channel 13 detector input.

Pin number: 33
Pin name: **AIN[14]**
Pin type: Analog input
Description: Channel 14 detector input.

Pin number: 34
Pin name: **MULT**
Pin type: Analog output
Description: Multiplicity output. Analog voltage proportional to the number of digital CFD outputs that have fired.

Pin number: 35
Pin name: **AIN[15]**
Pin type: Analog input
Description: Channel 15 detector input.

Pin number: 36
Pin name: **NEG_POL**
Pin type: Digital input
Description: Negative polarity enable. When held at a logic HIGH all channels will be configured for detector pulses that are negative with respect to AGND.

Pin number: 37
Pin name: **STB**
Pin type: Digital input
Description: Configuration strobe. On the rising edge Address and Mode are latched from pins pins 7-14. On the falling edge data is latched from pins 7-14.

Pin number: 38
Pin name: **EXT_AGND**
Pin type: Digital input
Description: External AGND control. Connect to VDD to bypass the internal analog ground generator circuit and drive an external AGND reference to pin 24. Connect to ground plane if internal AGND generator circuit is desired.

Pin number: 39
Pin name: **LE[3]**
Pin type: Digital output
Description: Channel 3 leading-edge detector output.

Pin number: 40
Pin name: **LE[4]**
Pin type: Digital output
Description: Channel 4 leading-edge detector output.

Pin number: 41
Pin name: **LE[5]**
Pin type: Digital output
Description: Channel 5 leading-edge detector output.

Pin number: 42
Pin name: **LE[6]**
Pin type: Digital output
Description: Channel 6 leading-edge detector output.

Pin number: 43
Pin name: **LE[7]**
Pin type: Digital output
Description: Channel 7 leading-edge detector output.

Pin number: 44
Pin name: **GLOB_EN**
Pin type: Digital input
Description: Global channel enable. Hold at a logic LOW to prevent CFD outputs from firing. Hold at a logic HIGH when CFD outputs are desired.

Pin number: 45
Pin name: **RST_L**
Pin type: Digital input
Description: Low active reset. Use to reset the state of output one-shot circuit to logic 0.

Pin number: 46
Pin name: **TEST_P**
Pin type: Digital output
Description: Test point. Connect to probe point on printed circuit board.

Pin number: 47
Pin name: **N/A**
Pin type: Downbond
Description: Substrate downbond. Connect directly to GND plane.

Pin number: 48
Pin name: **DO[15]**
Pin type: Digital output
Description: Channel 15 CFD output

Pin number: 49
Pin name: **DO[14]**
Pin type: Digital output
Description: Channel 14 CFD output

Pin number: 50
Pin name: **DO[13]**
Pin type: Digital output
Description: Channel 13 CFD output

Pin number: 51
Pin name: **DO[12]**
Pin type: Digital output
Description: Channel 12 CFD output

Pin number: 52
Pin name: **DO[11]**
Pin type: Digital output
Description: Channel 11 CFD output

Pin number: 53
Pin name: **DO[10]**
Pin type: Digital output
Description: Channel 10 CFD output

Pin number: 54
Pin name: **DO[9]**
Pin type: Digital output
Description: Channel 9 CFD output

Pin number: 55
Pin name: **DO[8]**
Pin type: Digital output
Description: Channel 8 CFD output

Pin number: 56
Pin name: **DVDD**
Pin type: Digital supply
Description: 3.3V digital supply. Powers digital pad ring.

Pin number: 57
Pin name: **DGND**
Pin type: Digital supply
Description: Digital circuit ground. Connect to ground plane.

Pin number: 58
Pin name: **DO[7]**
Pin type: Digital output
Description: Channel 7 CFD output

Pin number: 59
Pin name: **DO[6]**
Pin type: Digital output
Description: Channel 6 CFD output

Pin number: 60
Pin name: **DO[5]**
Pin type: Digital output
Description: Channel 5 CFD output

Pin number: 61
Pin name: **DO[4]**
Pin type: Digital output
Description: Channel 4 CFD output

Pin number: 62
Pin name: **DO[3]**
Pin type: Digital output
Description: Channel 3 CFD output

Pin number: 63
Pin name: **DO[2]**
Pin type: Digital output
Description: Channel 2 CFD output

Pin number: 64
Pin name: **DO[1]**
Pin type: Digital output
Description: Channel 1 CFD output