

Pin No.	Pin Name	IO and periphery cell needed	Reason
1	REF_CLK	sky130_fd_io__top_power_lvc_wpad	This cell have a direct connection from pad to core (through a "short" metal resistor) to provide the analog input(REF_CLK signal) to chip.
2	NC	---	---
3	NC	---	---
4	B_CP	sky130_fd_io__gpiov2	This gpio cell can be used in output mode using output buffer with specific signals applied to the gpio cell. It also satisfies the corresponding drive capability required(10uA).
5	B_VCO	sky130_fd_io__gpiov2	This gpio cell can be used in output mode using output buffer with specific signals applied to the gpio cell. It also satisfies the corresponding drive capability required(5uA).
6	VCO_IN	sky130_fd_io__top_power_lvc_wpad	These cells have a direct connection from pad to core (through a "short" metal resistor) to apply the analog input to the chip from the board.
7	EN_CP	sky130_fd_io__gpiov2	This gpio cell can be used in input mode using input buffer with specific signals applied to the gpio cell.
8	EN_VCO	sky130_fd_io__gpiov2	This gpio cell can be used in input mode using input buffer with specific signals applied to the gpio cell.
9	VDDA	sky130_fd_io__top_power_lvc_wpad	LV(1.8V) can be applied to chip through this cell and also has LV ESD clamp embedded in it .
10	VSSA	sky130_fd_io__top_ground_lvc_wpad	It is the ground pad and also have LV ESD clamp embedded in it.
11	VSSD	sky130_fd_io__top_ground_lvc_wpad	It is the ground pad and also have LV ESD clamp embedded in it.
12	VDDD	sky130_fd_io__top_power_lvc_wpad	LV(1.8V) can be applied to chip through this cell and also has LV ESD clamp embedded in it.
13, 14	NC	---	---
15	NC	---	---
16	VDDR	sky130_fd_io__top_power_hvc_wpad	HV(3.3V) can be applied to chip through this cell and also have HV ESD clamp embedded in it.
17	GNDR	sky130_fd_io__top_ground_hvc_wpad	It is the ground pad and also have HV ESD clamp embedded in it.
18	VDDO	sky130_fd_io__top_power_hvc_wpad	HV(3.3V) can be applied to chip through this cell and also have HV ESD clamp embedded in it.
19	GNDO	sky130_fd_io__top_ground_hvc_wpad	It is the ground pad and also have HV ESD clamp embedded in it.
20,21,22,23	GPIO_0,12,3	sky130_fd_io__gpiov2	For these pins, gpio cell can be used in input mode using input buffer with specific signals applied to the gpio cell.
24	CLK	sky130_fd_io__top_power_lvc_wpad	These cells have a direct connection from pad to core (through a "short" metal resistor) to derive the analog output(CLK signal) of chip out of package.