

# GPIO for TSMC 16nm FF+

## Overview

The 1.8V general purpose I/O library and 3.3V/1.8V dual voltage IO with 1.8V device are provided for TSMC 16nm FF+ process. And the SD3.0 IO and the I2C are supported.

## Key Features

- Support 1.8V IO and 3.3V/1.8V dual voltage IO with 1.8V device
- Support SD Specifications 3.0 Interface
- Programmable Output drivability, weak pull-up/pull-down
- Minimized I/O size by optimized ESD structure
- High reliability of ESD protection with Dual diode & RC Triggered NMOS ESD structure

## IO Lineup

IO	TSMC 16nm	Feature
3.3V/1.8V GPIO	●	<ul style="list-style-type: none"> <li>• 3.3V &amp; 1.8V dual voltage operation</li> <li>• AND input &amp; 3-state output with 4-drivability selector</li> </ul>
1.8V GPIO	●	<ul style="list-style-type: none"> <li>• AND input &amp; 3-state output with 4-drivability selector</li> </ul>
SD3.0 IO (3.3V/1.8V)	●	<ul style="list-style-type: none"> <li>• Compatible with SD Specifications 3.0, SDR104 &amp; HS mode</li> </ul>
I2C IO (2 PAD)	●	<ul style="list-style-type: none"> <li>• Supported I2C modes: Standard-mode, Fast-mode, Fast-mode+</li> <li>• 3.3V input tolerant</li> </ul>

● Available

## ESD Robustness

- HBM : 2000V
- CDM : 500V (peak current 8A)

*\*This IP is contract design IP. Please contact for detail.*