

ULTRA LOW POWER POWER-ON RESET

| Name | | Description | |
|--|------------|---|--------|
| CCPOR1V1N40A2 | | Ultra low power Power-On Reset monitoring 1.1 V supply voltage with inverted output | |
| Category | | Type | Status |
| Power Management | | POR | GDS |
| Foundry | Technology | Process Node | Year |
| TSMC | CMOS | 40 nm | 2025 |
| Deliverables (preferable IP merge model) | | | |
| <ul style="list-style-type: none"> ◆ Datasheet ◆ Characterization report ◆ Encrypted Flat Extracted netlist with parasitic ◆ Behavioral models | | <ul style="list-style-type: none"> ◆ Abstract View ◆ Timing View ◆ DRC, LVS and antenna report ◆ Integration guidelines and support | |

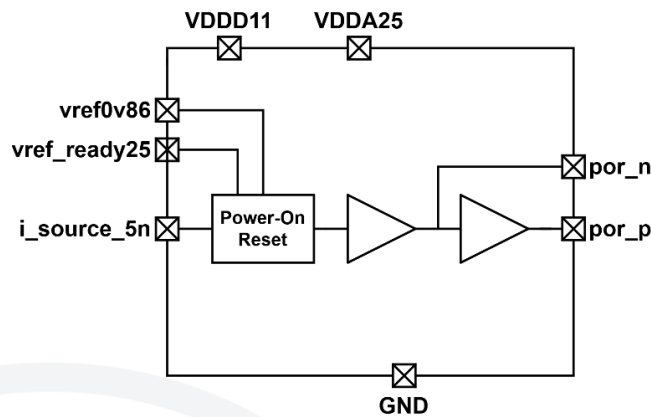


Figure 1. Simplified block diagram.

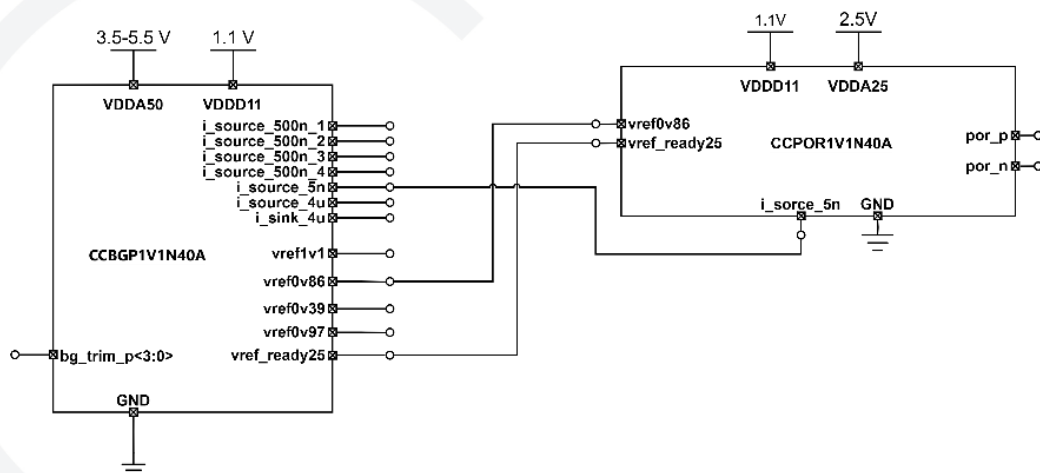


Figure 2. Typical use case.

Table 1. Pin description.

| Pin name | Direction | Type | Active | Description |
|--------------|-----------|---------|--------|--|
| VDDA25 | I/O | Power | | 2.5 V supply voltage |
| VDDD11 | I/O | Power | | 1.1 V supply voltage |
| GND | I/O | Power | | Ground |
| vref0v86 | I | Analog | | 0.86V voltage reference |
| i_source_5n | I/O | Analog | | Input bias current 5 nA, used to supply internal circuit responsible for reset delay. Should be connected with PMOS current mirror |
| vref_ready25 | I | Digital | | Enable when vref for POR is ready. Active high. Output in 2.5 V domain |
| por_n | O | Digital | Low | Power-on reset signal testing VDD25 and VDD11 voltage supplies |
| por_p | O | Digital | High | Power-on reset signal testing VDD25 and VDD11 voltage supplies |

Table 2. Specification.

| Parameter | Description | Min. | Typ. | Max. | Unit |
|-----------------------------------|--------------------------------|-------|-------|-------|------|
| T_j | Operating junction temperature | -40 | 27 | 85 | °C |
| VDDA25 | Supply voltage | 2.25 | 2.5 | 2.75 | V |
| VDDD11 | Core supply voltage | 0.99 | 1.1 | 1.21 | V |
| POR rise VDDA25 voltage threshold | Voltage thresholds of VDDA25 | 1.24 | 1.31 | 1.37 | V |
| POR fall VDDA25 voltage threshold | Voltage thresholds of VDDA25 | 1.22 | 1.27 | 1.35 | V |
| POR rise VDDD11 voltage threshold | Voltage thresholds of VDDD11 | 833.5 | 870.5 | 917.5 | mV |
| POR fall VDDD11 voltage threshold | Voltage thresholds of VDDD11 | 822.5 | 849.5 | 896.5 | mV |
| I_{VDDD11} | Current consumption VDDD11 | 39.6 | 55.6 | 4850 | pA |
| I_{VDDA25} | Current consumption VDDA25 | 22.5 | 27.9 | 49.0 | nA |