**Tab.1 Specification Table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Design Items | Specifications | score | Simulation | Calculation |
| **Technology** | CIC pseudo 0.18um technology | | | |
| **Vicm, Vocm** |  | | | |
| **Supply voltage (V)** | Open for design  **1.8 / 1.5 / 1.3** | **2%** |  |  |
| **4%** |
| **6%** |
| **Supply current (mA)**  **(including bias ckt)** | **< 3 / < 1 / < 0.4** | **2%** |  |  |
| **4%** |
| **6%** |
| **Loading** | 2 pF / 100 kΩ  (for each output) |  |  |  |
| **Compensation Rz, Cc** | Rz < 10 kΩ , Cc < 10 pF |  |  |  |
| **Open-loop simulation** | | | | |
| **DC gain (dB)** | **> 70 / > 75 / > 80** | **1%** |  |  |
| **3%** |
| **5%** |
| **G-BW (MHz)** | **> 50 / > 75 / > 90 / > 100** | **1%** |  |  |
| **2%** |
| **3%** |
| **4%** |
| **P.M.** | > |  |  |  |
| **C.M.R.R. @10KHz** | > 90 dB |  |  |  |
| **P.S.R.R.+ @10KHz** | > 90 dB |  |  |  |
| **P.S.R.R.- @10KHz** | > 90 dB |  |  |  |
| **Closed-loop simulation** | | | | |
| Differential swing of 1.0 V (step or sinusoidal) | | | | |
| **Closed-loop gain** | > -0.1dB @ 10kHz |  |  |  |
| **S.R.+ (10% ~ 90%)** | > 15 V/us (single-ended output) |  |  |  |
| **S.R.- (90% ~ 10%)** | > 15 V/us (single-ended output) |  |  |  |
| **THD (1.0Vpp@100kHz Sin)** | < - 60 dB |  |  |  |
| **Settling+ (1.0Vstep to 0.5%)** | < 150 ns |  |  |  |
| **Settling- (1.0Vstep to 0.5%)** | < 150 ns |  |  |  |
| **(ns)** | **< 150 / < 90 / < 70 / < 55** | **1%** |  |  |
| **2%** |
| **3%** |
| **4%** |

**Reference circuit**

