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内容	Quantum computers using superconducting circuits are in the phase of realistic applications. However, the number of the qubits is less than 500, and scaling up is still one of the urgent issues. To design a large circuit, a convenient and efficient circuit simulator is necessary. We have proposed the circuit description of the readout part of the transmon qubit using conven-tional SPICE simulator. Here, we investigated wide parameter region of the classical circuits and discuss the applicability to the quantum circuits.