

# BC95 Reference Design

**NB-IoT Module Series**

Rev. A

Date: 2016-08-08



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## History

Revision	Date	Author	Description
A	2016-08-08	Bryant CHEN	Initial

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Preliminary

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Preliminary

# 1 Reference Schematic

## 1.1. Introduction

This document is a reference design for BC95 module. The schematics included in this document are preliminary and are subject to change without notice.

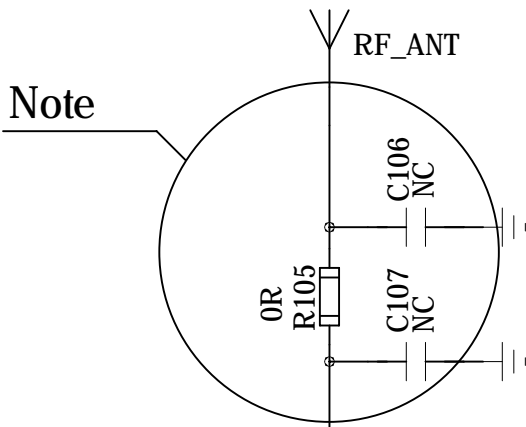
## 1.2. Schematics

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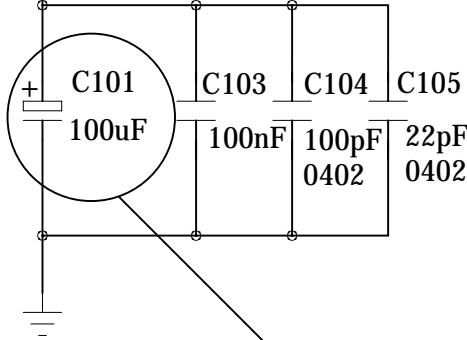
Module Design

NOTE

For RF layout, please refer to RF\_Layout\_Application\_Note.  
A Pi-type match circuit is recommended to be added.



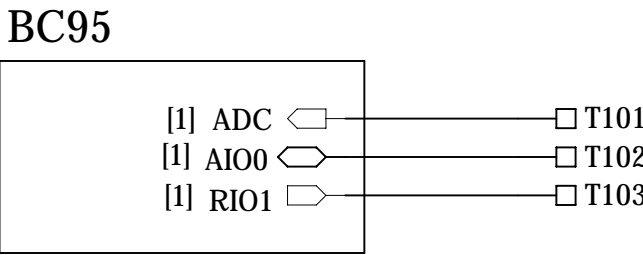
VBAT Close to the VBAT pads



Capacitance of C101 should be chosen by debugging to ensure the max voltage drop during the burst transmission is within the normal range.

- 1. VBAT ranges from 3.1V to 4.2V.
- 2. The width of VBAT trace is recommended to be more than 1mm.
- 3. These capacitances are arranged in ascending order, with the smallest one closing to the VBAT pad and all capacitances as close to the VBAT pad as possible.

It is recommended to reserve these test points for Analog port.



General purpose analog to digital converter.

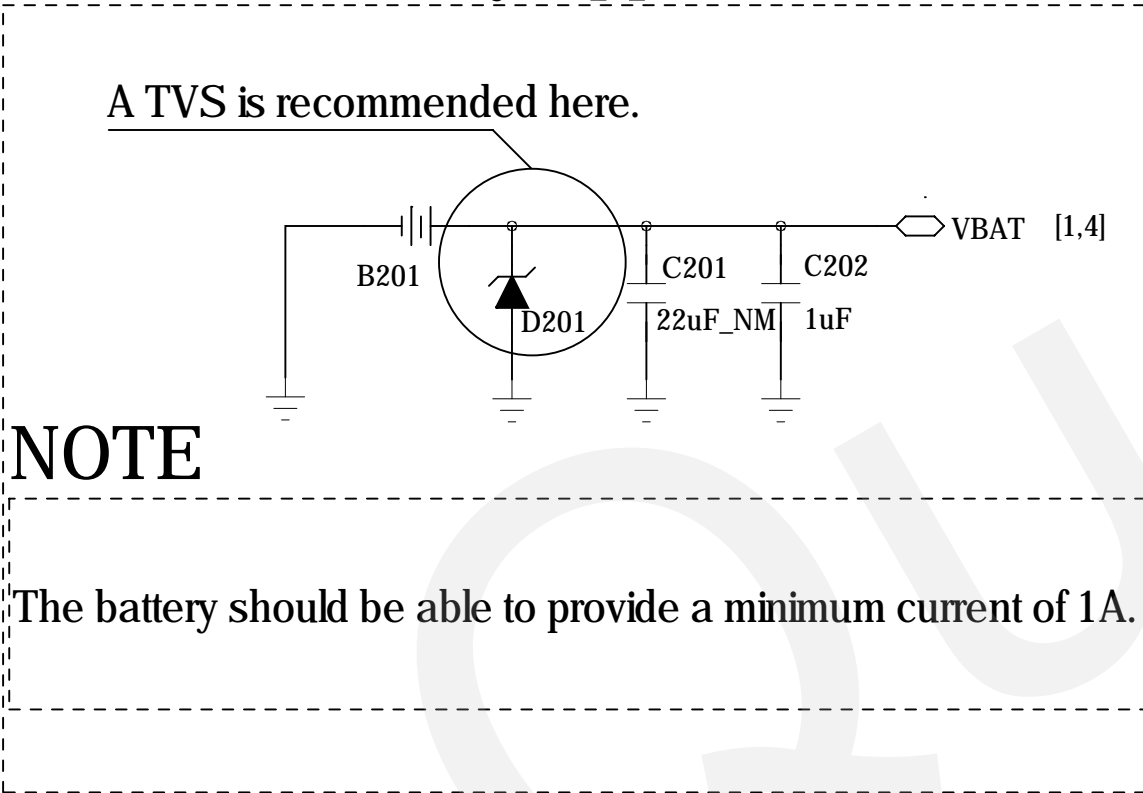
Analogue peripheral input/output line.

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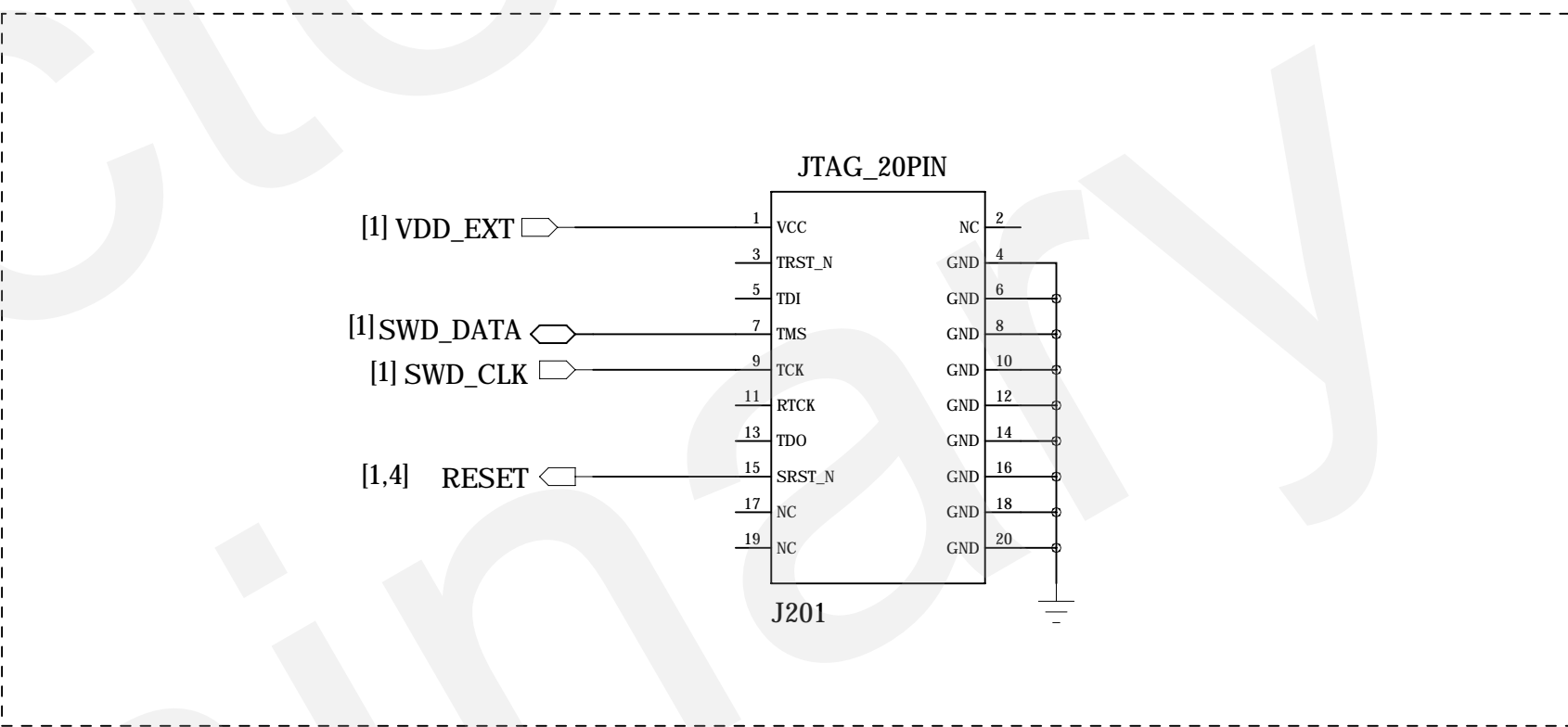
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Power Supply

Battery Application



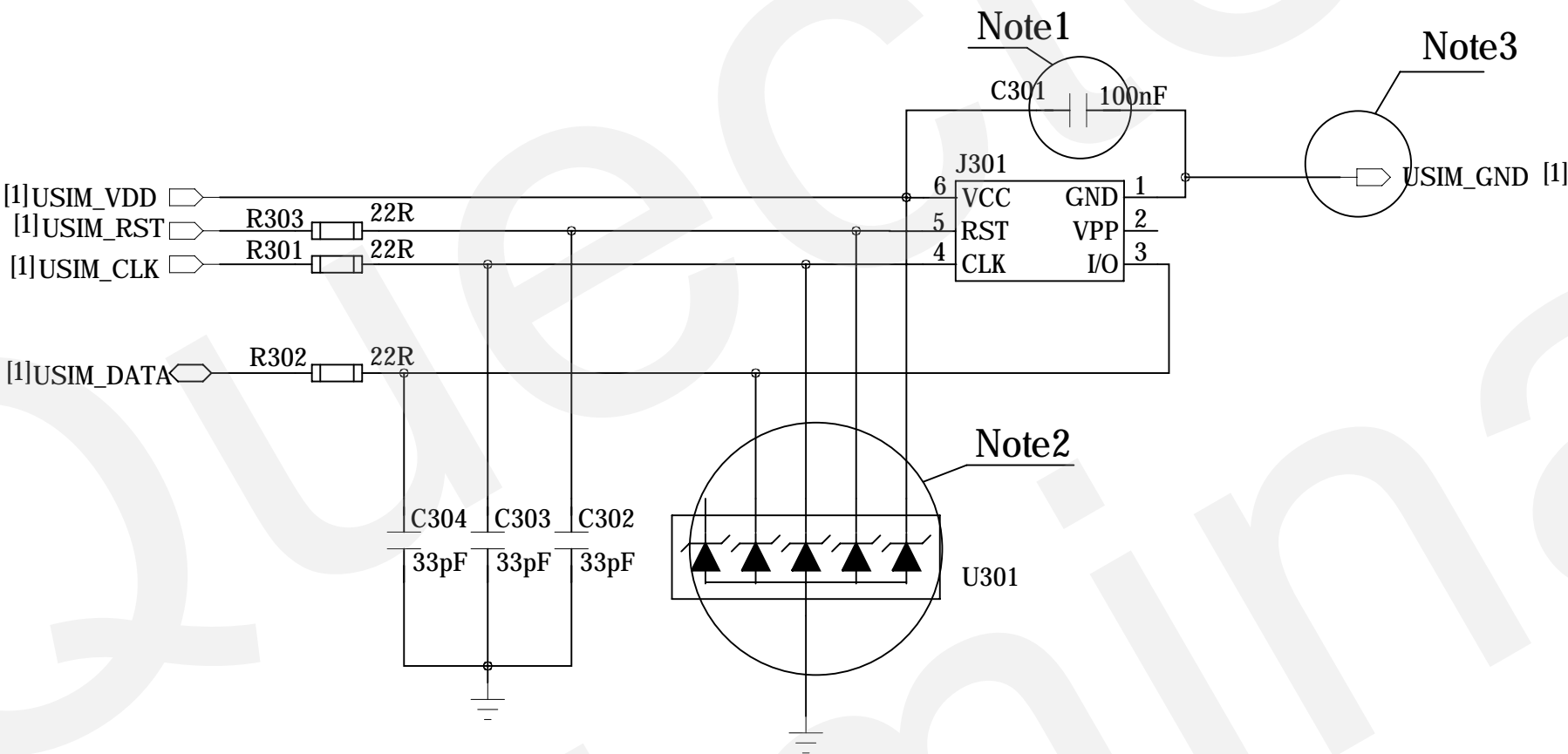
Reference Circuit of Download



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SIM Card

SIM Card Interfaces



NOTES

- 1. The value of C301 should be less than 1uF.
- 2. U301 is used for protecting SIM card against ESD, and the junction capacitance should be less than 50pF. It should be placed nearby SIM card holder.
- 3. For BC95 module, ground of SIM card is recommended to be routed to the Pin 42 ("USIM\_GND") of the module separately.

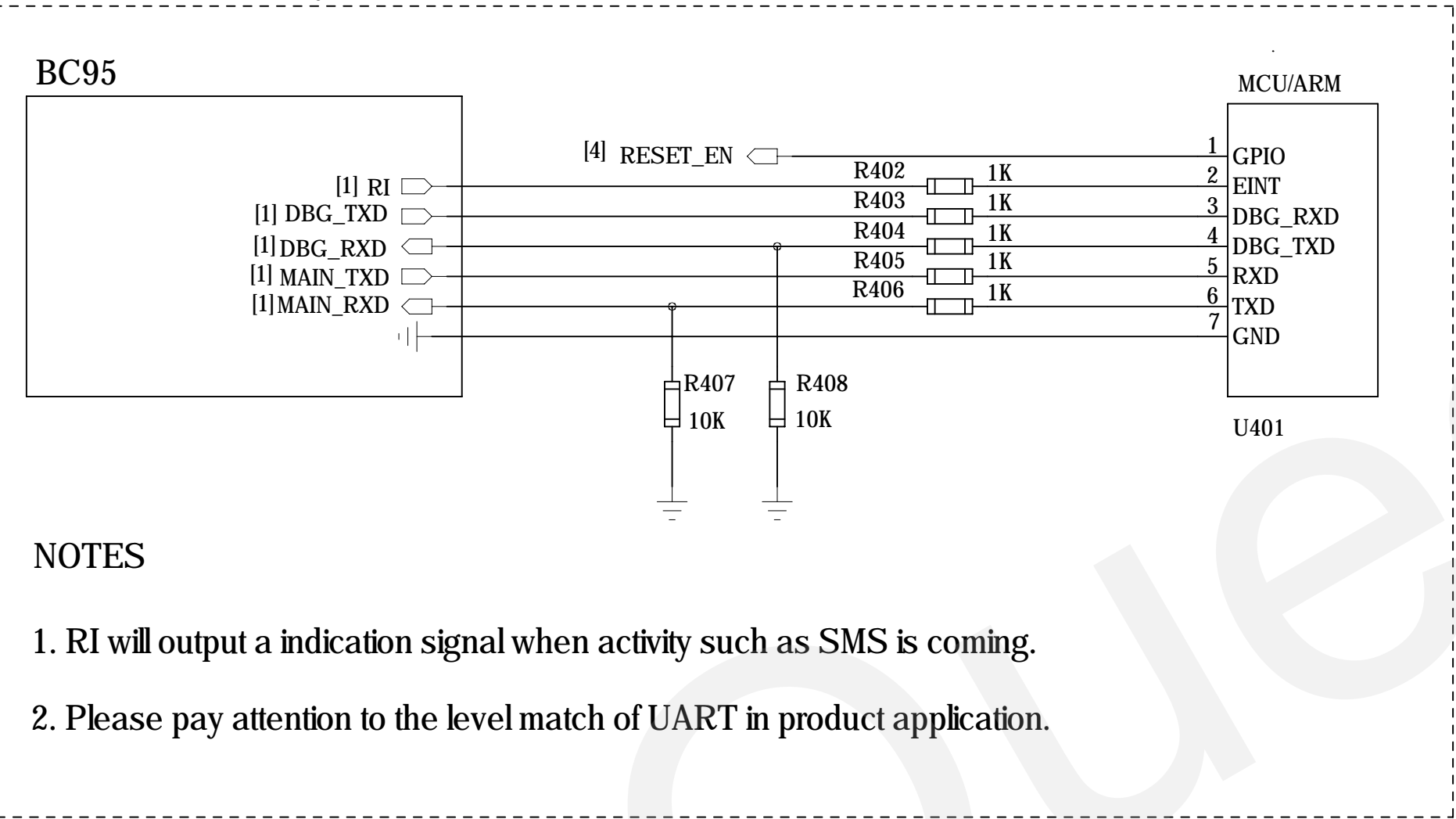
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MCU Connection

UART Interface

Connection for 3.3V System

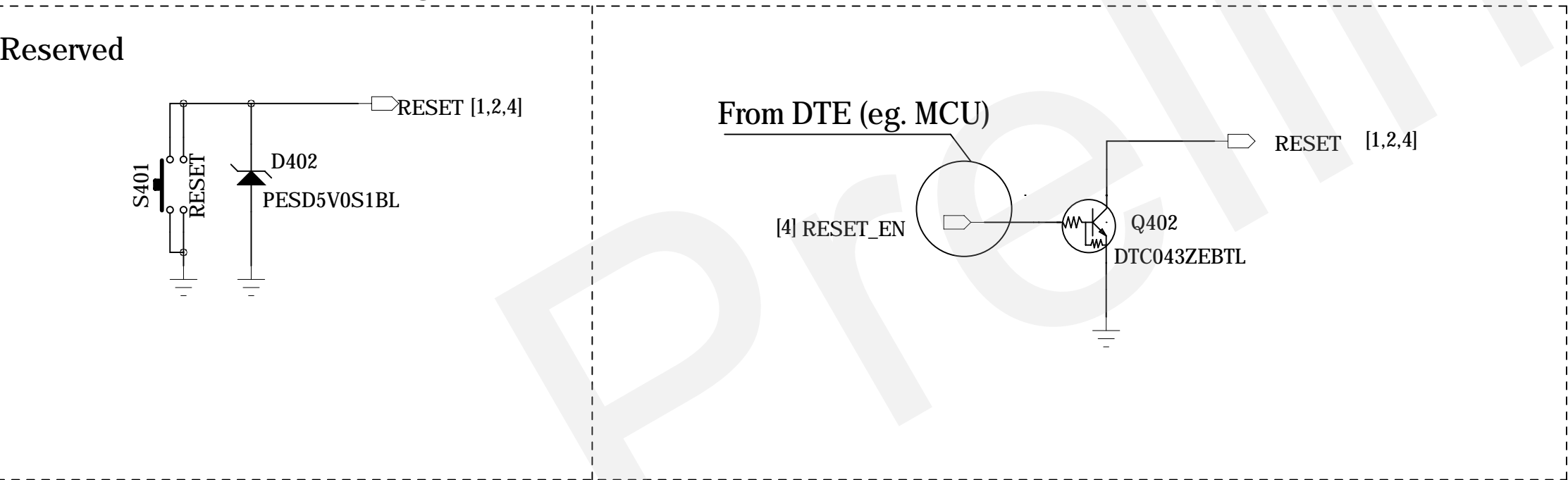


Electric characteristics of the module's input and output ports:

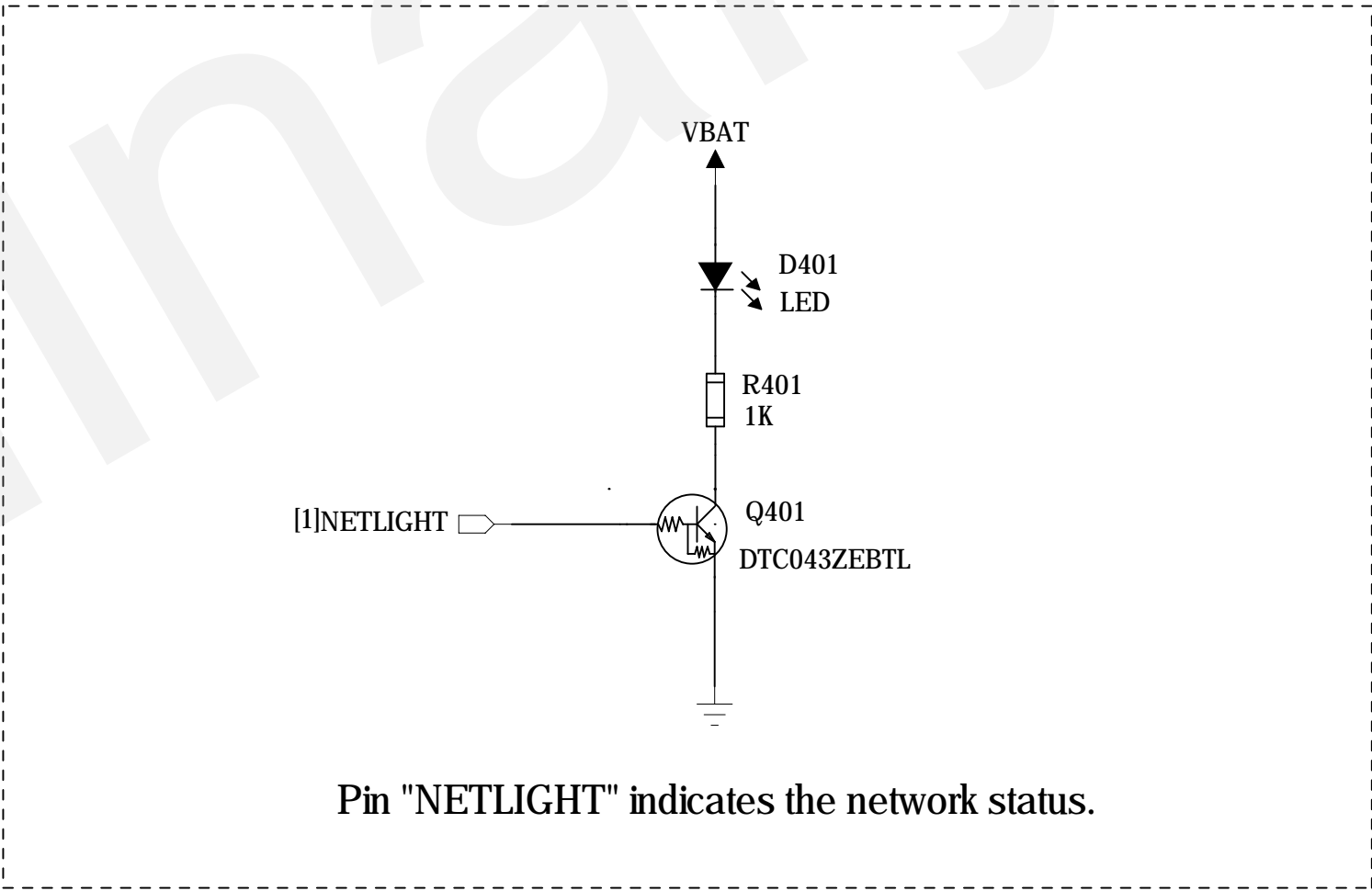
VOHmin=2.4V  
VOLmax=0.4V  
VILmax=0.2\*VDD\_EXT  
VIHmin=0.7\*VDD\_EXT  
VIHmax=1.1\*VDD\_EXT  
VDD\_EXT=3.0V (typical value)

Reset Function

Recommended circuit for resetting module.



Indication



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