
Decoupling Guidelines for the CYS25G0101DX OC-48 SONET Transceiver

Associated Project: No

Associated Part Family: CYS25G0101DX

Software Version: NA

Related Application Notes: None

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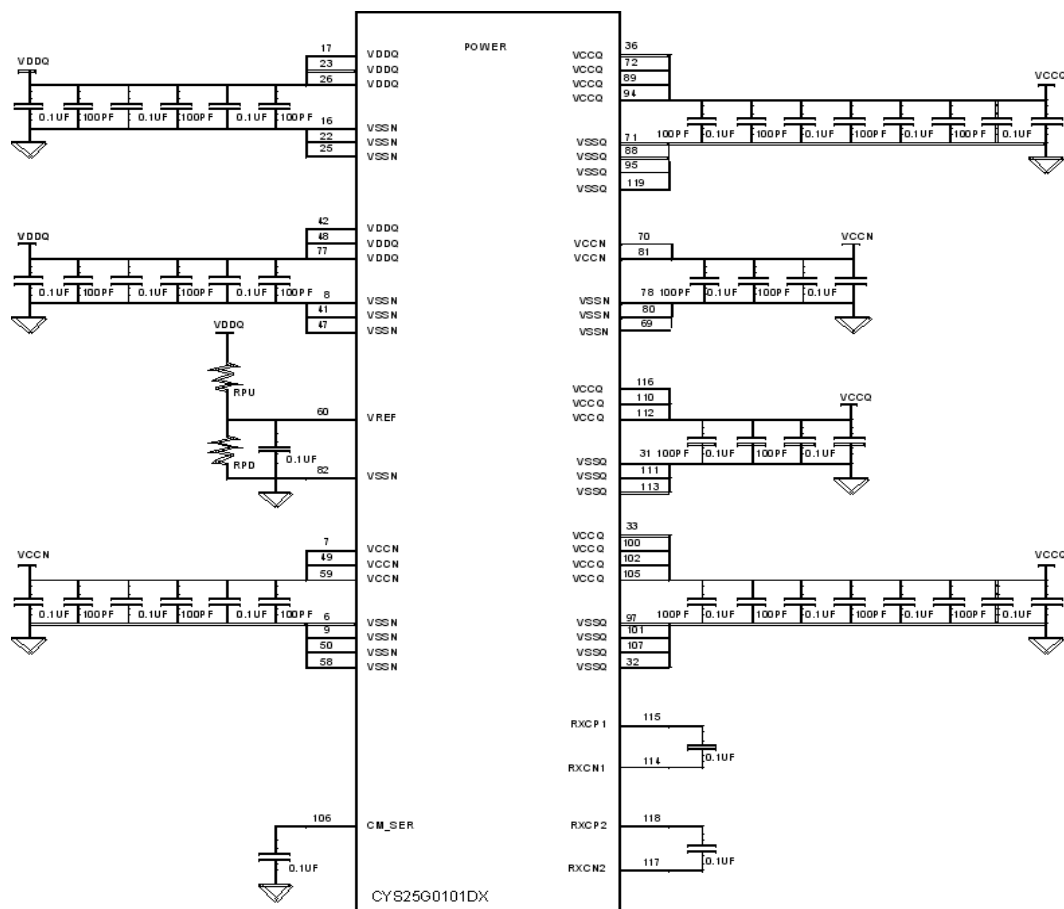
This application note gives some decoupling guidelines, loop-filter requirements, and CM_SER pin requirements for the CYS25G0101DX OC-48 SONET Transceiver.

Introduction

The CYS25G0101DX SONET/SDH OC-48 transceiver is a communications building block for high-speed SONET data communications. The CYS25G0101DX provides complete parallel-to-serial and serial-to-parallel conversions, clock generation, and clock and data recovery operations in a single 120-pin 14-mm x 14-mm TQFP package.

The figure below illustrates the decoupling recommendations, reference voltage, and loop filter requirements for the CYS25G0101DX. The decoupling and loop-filter capacitors should be placed as close as possible to the pins and on the same side as the device whenever possible. The recommended package and dielectric for these capacitors are 0805 X7R or 0603 X7R. All grounds are to be tied directly to one ground plane, and the VDDQ, VCCQ, and VCCN power-sources are to be connected to the same uncut 3.3-volt power plane when designing for an LVPECL level Interface. When designing for an HSTL level interface, VCCQ and VCCN are to be connected to the same uncut 3.3-volt powerplane, whereas VDDQ will come from a separate 1.5-volt powerplane.

Figure 1. Decoupling and Loop Filter Capacitor for CYS2G0101DXB



Summary

This application note can be used as a guidelines for decoupling of CYS25G0101DX OC-48 SONET Transceiver, which also show how the ground plane and power sources are to be connected.

Document History

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Revision	ECN	Orig. of Change	Submission Date	Description of Change
**	1345503	SAAC	08/07/2007	New spec.
*A	3390472	SAAC	09/30/2011	Converted from framemaker to word. Added Abstract. Added Summary. Updated to new template.
*B	4572013	YLIU	11/18/2014	Updated to new template. Completing Sunset Review.
*C	5879880	AESATMP9	09/11/2017	Updated logo and copyright.

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