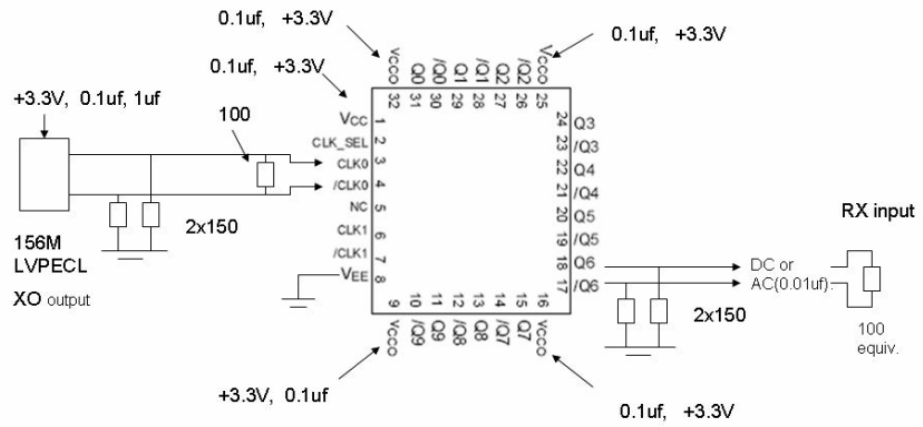
PI6C4853111 Application Note

1. Introduction

The PI6C4853111 is one universal differential input (LVPECL, LVDS, HCSL, and CML) and 10 LVPECL differential output 32 pin IC in TQFN package. It is mostly used for Datacom, Netcom, and Telecom equipment designs.

2. Circuit Use Guide

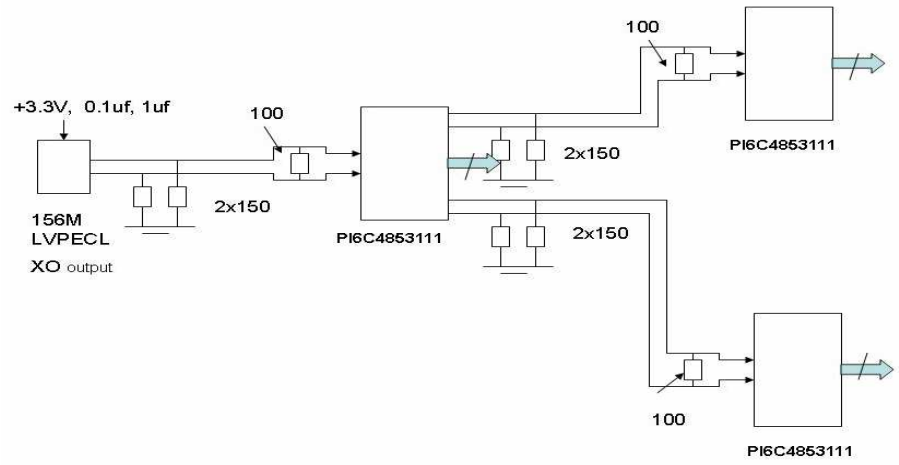


Note:

1) Put 0.1uf decoupling cap. on each VDD pin comp. side; 1uf can be put on the bottom side
2) Leave un-used Qx and nQx output just open in NC
3) LVPECL XO needs 150 pull-down to drive RX equiv. 100 diff. load, LVDS XO output does not need 150 pull-down

3. Cascade Connection Use

For clock fan-out distribution, for example 48 port 10GE design, it can use cascade connection method with the following design guide in simple and popular LVPECL DC coupling termination. The cascade add-jitter is minimum since the device self has very low jitter.



4. LVPECL Differential Output PCB

i) 150 ohm pull-down would be put close to clock output side (<0.250mil) with symmetrical position in one pair
ii) It is better not to share 150 ohm pull-down GND via with adjacent pairs' 150 ohm's GND via
iii) Drive to ASIC can be either AC or DC coupling by ASIC spec. AC drive needs ASIC has internal bias