

Title (en)
I2C OPTO-ISOLATOR CIRCUIT

Title (de)
I2C OPTO-ISOLATOR-SCHALTUNG

Title (fr)
CIRCUIT OPTO-ISOLATEUR I2C

Publication
EP 1230683 A4 20060517 (EN)

Application
EP 00992226 A 20001027

Priority
• US 0041694 W 20001027
• US 16231499 P 19991028

Abstract (en)
[origin: WO0139515A2] An opto-isolator circuit for providing isolation between a bi-directional, I2C transmission line and a pair of single-direction transmission lines. The opto-isolator circuit includes a bi-directional port for receiving data from, and providing data to, the bi-directional transmission line. The circuit further includes an output path that has (i) a first buffer for receiving outgoing data from the bi-directional port, (ii) a first opto-isolator for receiving the outgoing data from an output of the first buffer, and (iii) a second buffer for receiving the outgoing data from an output of the first opto-isolator and providing the outgoing data to an output port. The circuit also includes an input path, that has (i) a third buffer for receiving incoming data from an input port, (ii) a second opto-isolator for receiving the incoming data from an output of the third buffer, and (iii) a fourth buffer for receiving the incoming data from an output of the second opto-isolator. The fourth buffer provides the incoming data to the bi-directional port such that characteristics of the incoming data are compatible with I2C characteristics.
[origin: WO0139515A2] An opto-isolator circuit (100) for providing isolation between a bi-directional, I2C transmission line and a pair of single-direction transmission lines (32, 34). The opto-isolator circuit (100) includes a bi-directional port (102) for receiving data from, and providing data to, the bi-directional transmission line. The circuit further includes an output path that has (i) a first buffer (108) for receiving outgoing data from the bi-directional port (102), (ii) a first opto-isolator (110) for receiving the outgoing data from an output of the first buffer (108), and (iii) a second buffer (112) for receiving the outgoing data from an output of the first opto-isolator (110) and providing the outgoing data to an output port (104). The circuit also includes an input path, that has (i) a third buffer (114) for receiving incoming data from an input port (106), (ii) a second opto-isolator (116) for receiving the incoming data from an output of the third buffer (114), and (iii) a fourth buffer (118) for receiving the incoming data from an output of the second opto-isolator (116). The fourth buffer (118) provides the incoming data to the bi-directional port (102) such that characteristics of the incoming data are compatible with I2C characteristics.

IPC 8 full level
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CPC (source: EP KR)
H01P 1/32 (2013.01 - KR); **H04B 10/802** (2013.01 - EP); **H04L 25/26** (2013.01 - EP)

Citation (search report)
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• [A] US 4282604 A 19810804 - JEFFERSON WILLIAM T
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• [X] XIA Y: "OPTICALLY ISOLATED I2C INTERFACE", ELECTRONICS WORLD, NEXUS MEDIA COMMUNICATIONS, SWANLEY, KENT, GB, vol. 104, no. 1752, December 1998 (1998-12-01), pages 1018, XP000880680, ISSN: 0959-8332
• [A] WIEMANN: "Bussysteme", BUSSYSTEME, 1984, pages 102 - 102, XP002260915
• See references of WO 0139515A2

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