



FEATURES

- Bidirectional I²C communication
- Supports up to 2 MHz operation
- Open-drain interfaces
 - Side 1 outputs with 3.5 mA sink current
 - Side 2 outputs with 35 mA sink current
- 3.0V to 5.5V supply/logic levels
- High common-mode transient immunity: 75 kV/ μ s typical
- Isolation voltages:
 - π 220N/221N: AC 3000Vrms
 - π 220W/221W: AC 6000Vrms
- Safety and regulatory approvals(Pending):
 - UL recognition:
 - 3000Vrms/6000Vrms for 1 minute per UL 1577
 - CSA Component Acceptance Notice 5A
 - VDE certificate of conformity:
 - DIN V VDE V 0884-10 (VDE V 0884-10):2006-12
 - V_{IORM} = 565V peak/849V peak
 - CQC certification per GB4943.1-2011
- AEC-Q100 (Pending)
- Wide temperature range: -40°C to 125°C
- 8/16-lead, RoHS-compliant, (W)SOIC package

APPLICATIONS

- Isolated I²C, SMBus, PMBus interfaces
- Multilevel I²C interfaces
- Electric and Hybrid-Electric Vehicles
- Open-Drain Networks
- I²C Level Shifting
- Power supplies

GENERAL DESCRIPTION

The π 220(N;W)/ π 221(N;W) devices are low-power bidirectional isolators compatible with the I²C interface and are based on iDivider technology from 2PaiSemi. These devices have logic input and output buffers that are separated by using a silicon dioxide (SiO₂) barrier. These devices block high voltages and prevent noise currents from entering the control side ground, avoiding circuit interference and damaging sensitive components.

The π 220(N;W)/ π 221(N;W) devices are based on iDivider technology with functional, performance, size, and power consumption advantages as compared to optocouplers.

The π 220(N;W) provides two bidirectional channels, supporting a complete isolated I²C interface. The π 221(N;W) provides one bidirectional channel and one unidirectional channel for applications where a bidirectional clock is not required. The π 221(N;W)

is used in applications that have a single master while the π 220(N;W) is suitable for multi-master applications.

These devices feature independent 3.0V to 5.5V supplies on each side of the isolator. These devices operate from DC to 2MHz at ambient temperatures of -40°C to +125°C.

FUNCTIONAL BLOCK DIAGRAMS

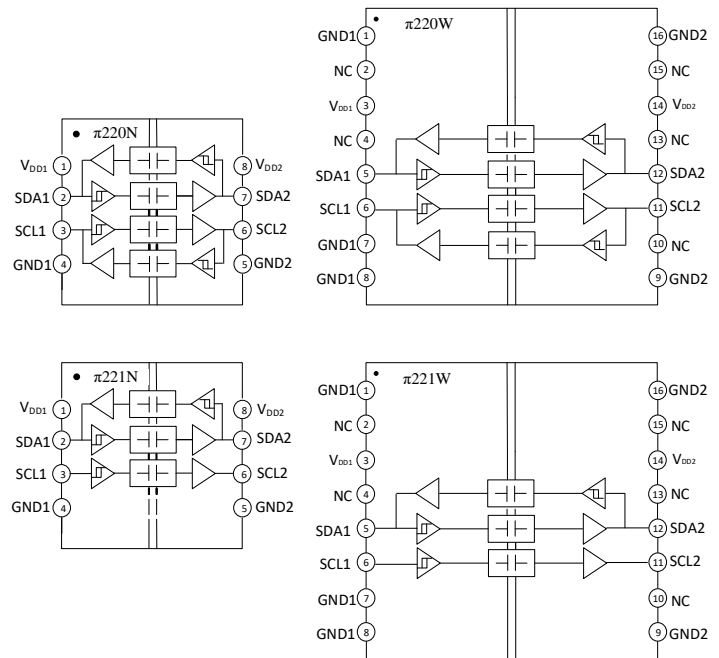


Figure1. π 220(N;W)/ π 221(N;W) functional Block Diagram

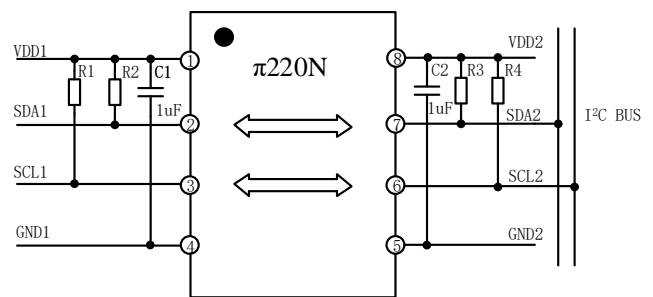


Figure2. π 220N Typical Application Circuit

