

SENSYLINK Microelectronics

(CA9617)

Level Translating FM+ I²C-bus Repeater

The CA9617 is a CMOS integrated circuit that provides level shifting between low voltage (0.8V to 5.5V) and higher voltage (2.2V to 5.5V) Fast-mode Plus (FM+) I²C-bus or SMBus applications. It is ideally used in Server, Routers (Telecom Switching Equipment), Industrial Equipment and products with many I²C slaves and/or long PCB traces.

Level Translating FM+ I²C-bus Repeater

1. Description

The CA9617 is a CMOS integrated circuit that provides level shifting between low voltage (0.8V to 5.5V) and higher voltage (2.2V to 5.5V) Fast-mode Plus (FM+) I²C-bus or SMBus applications. While retaining all the operating modes and features I²C-bus system during the level shifts, it also permits extension of the I²C-bus by providing bidirectional buffering for both the data (SDA) and the clock (SCL) lines, thus enabling two buses of 540 pF at 1 MHz or up to 4000 pF at lower speeds. Using the CA9617 enables the system designer to isolate two halves of a bus for both voltage and capacitance. The SDA and SCL pins are overvoltage tolerant and are high-impedance when the CA9617 is unpowered.

Available Package: MSOP-8.

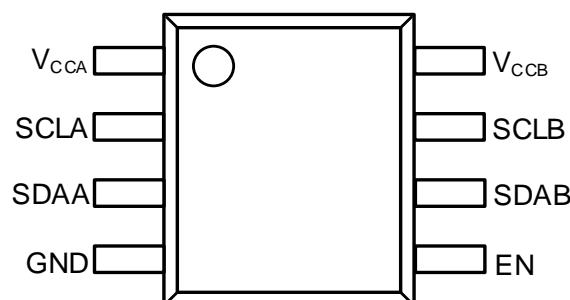
2. Features

- 2 channel, bidirectional translator for SDA and SCL in mixed-mode I²C applications
- I²C and SMBus compatible
- Voltage level translation from 0.8V to 5.5V and from 2.2V to 5.5V
- Port A operating supply voltage range of 0.8V to 5.5V with normal levels
- Port B operating supply voltage range of 2.2V to 5.5V with static offset level
- 5V tolerant I²C-bus and enable pins
- 0Hz to 1000kHz clock frequency (the maximum system operating frequency may be less than 1000kHz because of the delays added by the repeater)
- Active HIGH repeater enable input referenced to V_{CCB}
- Open-drain input/outputs
- Latching free operation
- Supports arbitration and clock stretching across the repeater
- Accommodates Standard-mode, Fast-mode and Fast-mode Plus I²C-bus devices, SMBus (standard and high power mode), PMBus and multiple masters
- Powered-off high-impedance I²C-bus pins

3. Applications

- Server
- Routers (Telecom Switching Equipment)
- Industrial Equipment
- Products with many I²C slaves and/or long PCB traces

4. PIN Configurations



MSOP-8 (Package Code MM)

5. Typical Application

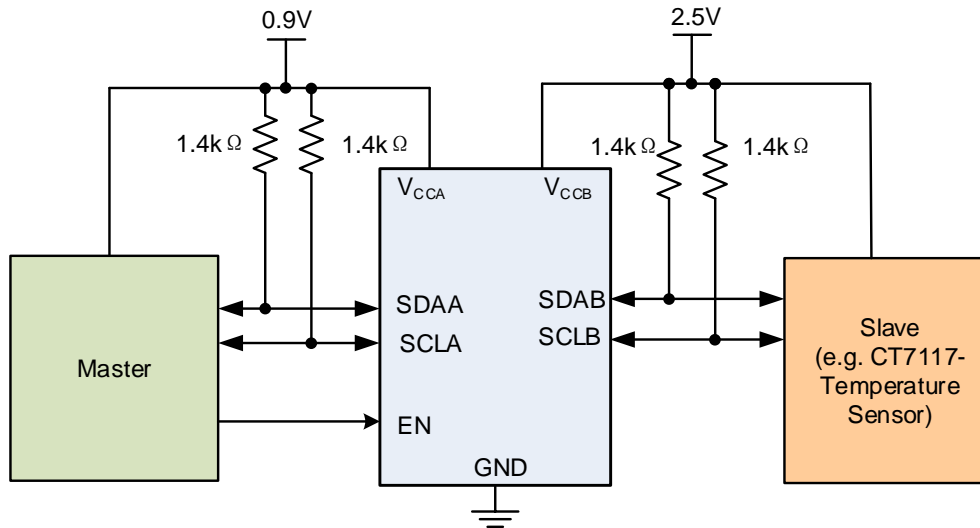


Figure 1 Typical Application of CA9617

6. Pin Description

PIN Name	PIN No.	Description
V _{CCA}	1	A-side supply voltage (0.8V to 5.5V)
SCLA	2	I ² C SCL line, A side. Connect to V _{CCA} through a pull-up resistor
SDAA	3	I ² C SDA line, A side. Connect to V _{CCA} through a pull-up resistor
GND	4	Supply ground
EN	5	Active-high repeater enable input with an internal pull-up to V _{CCB}
SDAB	6	I ² C SDA line, B side. Connect to V _{CCB} through a pull-up resistor
SCLB	7	I ² C SCL line, B side. Connect to V _{CCB} through a pull-up resistor
V _{CCB}	8	B-side and device supply voltage (2.2V to 5.5V)

7. Function Block

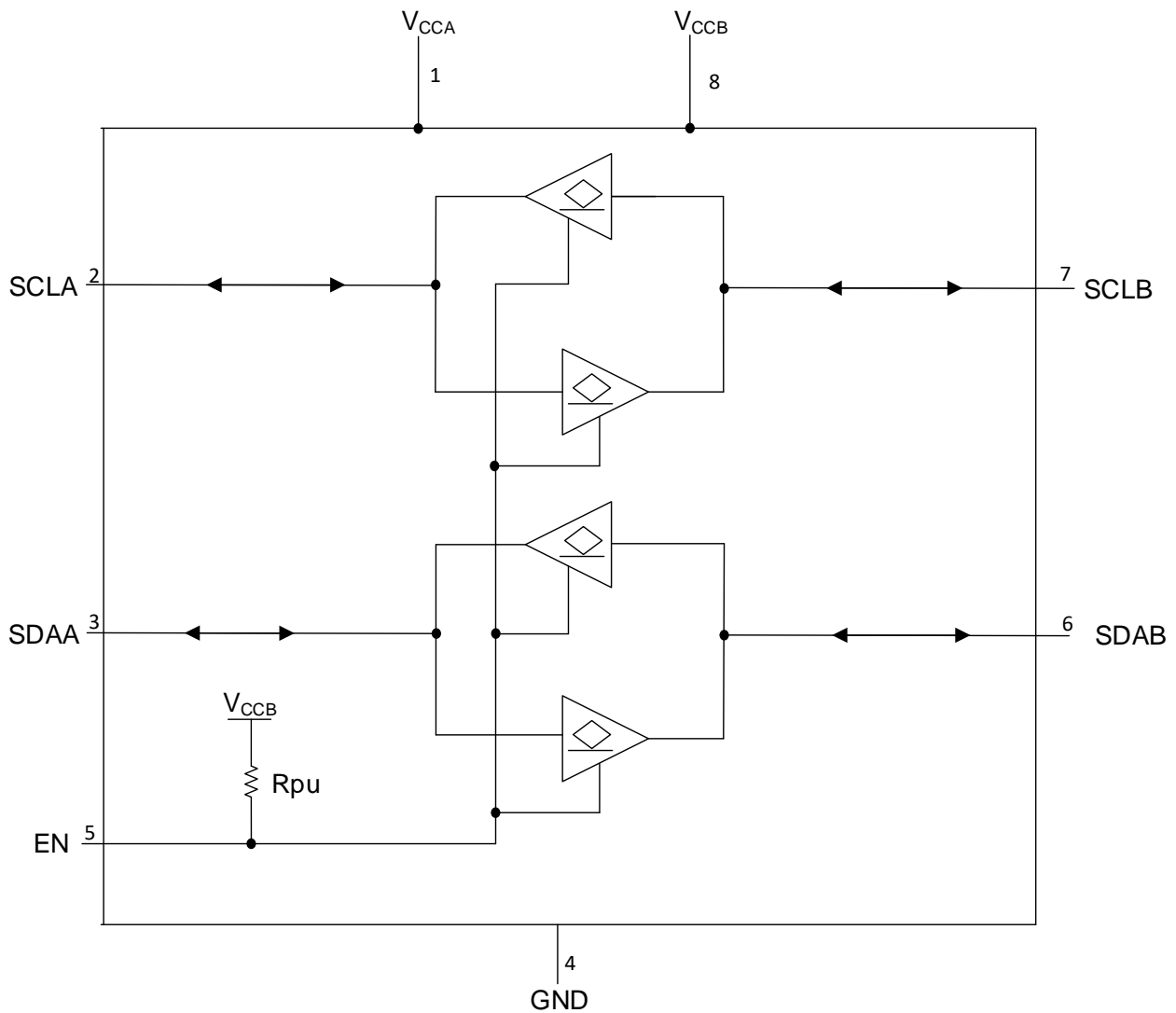
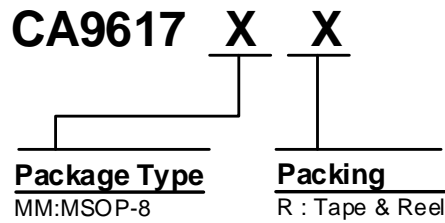


Figure 2 CA9617 Function Block

Level Translating FM+ I²C-bus Repeater

8. Ordering Information



Order PN	Green ¹	Package	Marking ID ²	Packing	MPQ	Operation Temperature
CA9617MMR	Halogen free	MSOP-8	9617 YWWAXX	Tape & Reel	3,000	-40°C~+85°C

Notes:

1. Sensylink can meet RoHS2.0/REACH requirement. Most package types Sensylink offers only states halogen free, instead of lead free.
2. Marking ID includes 2 rows of characters. In general, the 1st row of characters are part number, and the 2nd row of characters are date code plus production information.



SENSYLINK Microelectronics Inc.

www.sensylink.com

IMPORTANT NOTICE

SENSYLINK Microelectronics Inc. reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein or to discontinue any product or service. Customers should obtain the latest relevant information before placing orders and should verify the latest and complete information. SENSYLINK Microelectronics does not assume any responsibility for use of any product, nor does SENSYLINK Microelectronics any liability arising out of the application or use of this document or any product or circuit described herein. SENSYLINK Microelectronics assumes no liability for applications assistance or the design of Customers' products. Customers are responsible for their products and applications using SENSYLINK Microelectronics components. SENSYLINK Microelectronics does not convey any license under its patent or trademark rights nor the other rights.

SENSYLINK Microelectronics Inc. © 2015 - 2023.