

High-Bandwidth FET Bus Switches

Nexperia's new CB3Q family has been developed for broadband communication, computing and networking applications. Our CB3Q technology offers a charge pump to switch 5 V signals in combination with low supply voltage range.



These low voltage bus interface solutions have a high bandwidth 0.5 GHz bus switch performance with low and flat On-resistance, low power consumption and a low input/output capacitance that minimize capacitive loading and signal distortion on the data bus. Currently, the Nexperia CB3Q family consists of two solutions: a Dual SP4T switch named 74CB3Q3253 and a Quad SPDT switch named 74CB3Q3257.

Key Features

- › Wide supply voltage range: from 2.3 V to 3.6V
- › Overvoltage-tolerant switch inputs
- › Support for mixed-mode voltage operation
- › I_{OFF} circuitry for partial power-down operation

Benefits

- › Switches 0 - 5 V signals at 3.3 V supply voltage
- › High 0.5 GHz bandwidth for data path
- › Low and Flat On-resistance of switch
- › Lower power dissipation
- › Available in leaded & leadless package

Applications

- › Broadband communication
- › Computing and networking
- › Bus isolation
- › Sensor multiplexing
- › Memory interleaving

nexperia

EFFICIENCY WINS.

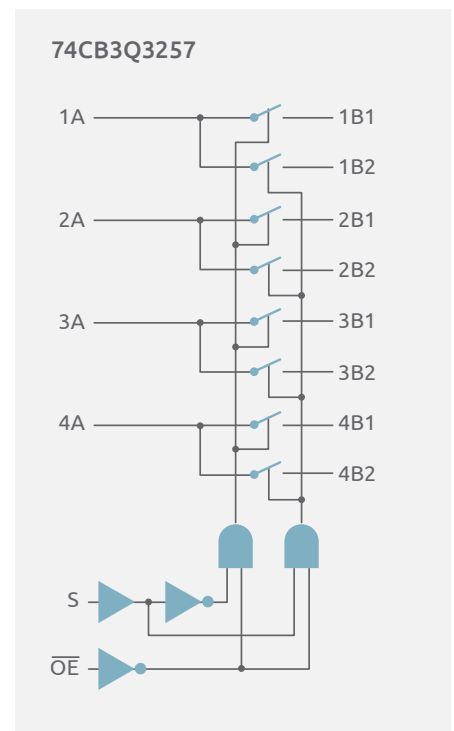
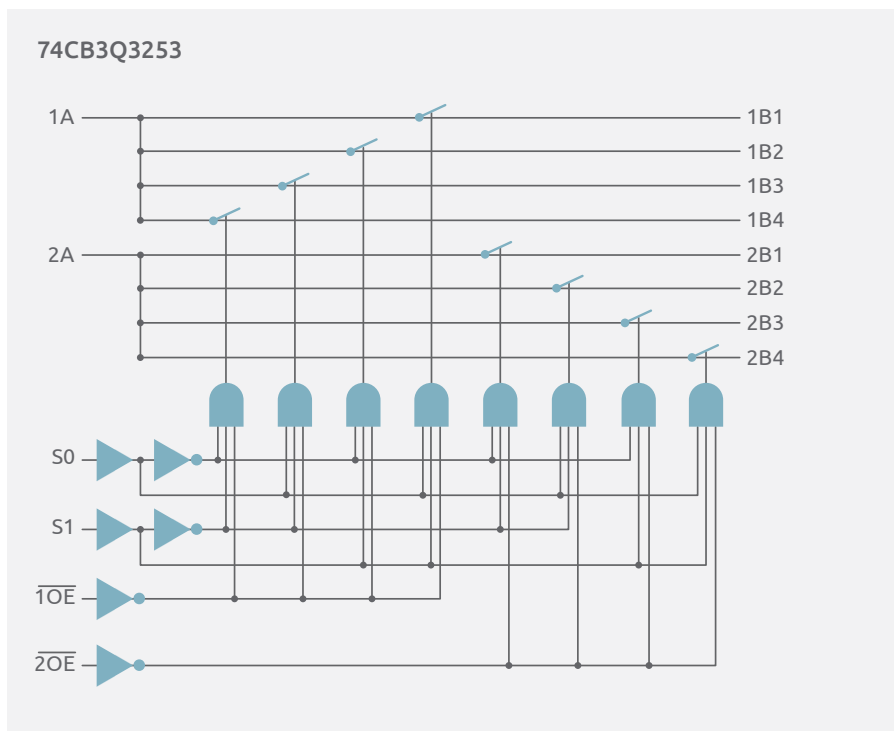
Types

Type	Description	
74CB3Q3253	Dual 1-of-4 FET multiplexer/demultiplexer with charge pump	Dual SP4T switch
74CB3Q3257	4-bit 1-of-2 FET multiplexer/demultiplexer with charge pump	Quad SPDT switch

Parametrics

V_{CC} Range	R_{on}	$C_{S(OFF)}$	Bandwidth	Temperature Range	Static Current (I_{CC})
2.3–3.6 V	4 Ω	3.5 pF	0.5 GHz	–40 °C to +85 °C	0.4 mA (typ.)

Circuit diagram

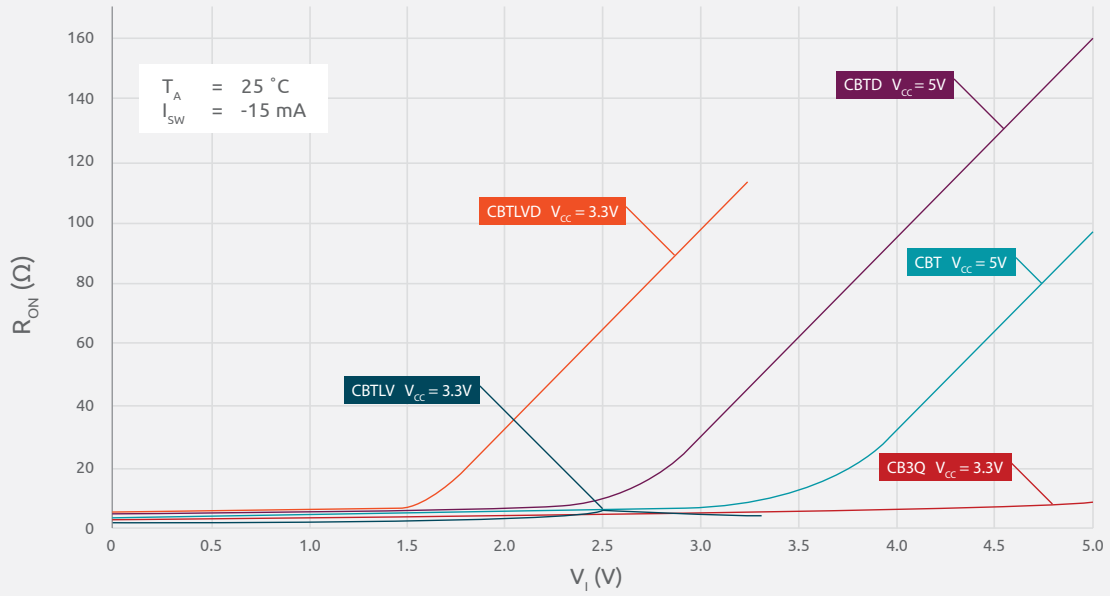


Packages

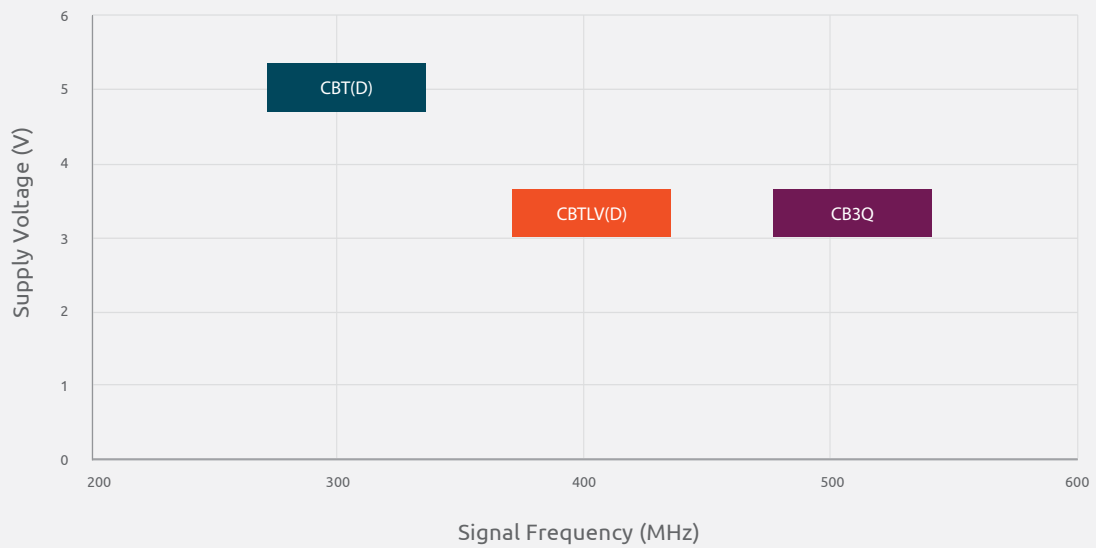
Suffix	Name	Package family	Dimensions (L x W x H, in mm)	
BQ	SOT763-1	DQFN16	3.5 x 1.0 x 0.5, 0.5	
PW	SOT403-1	TSSOP16	6.4 x 5.0 x 1.1, 0.65	

CB3Q technology positioning

Low On-resistance for switching signals from 0 V to 5V with minimized losses



High bandwidth products (0.5GHz)



Download the product datasheet: [74CB3Q3253](#) [74CB3Q3257](#)

© 2018 Nexperia B.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.

nexperia.com

Date of release:

March 2018

Printed:

In the Netherlands

