

Product at a glance LSF0108

8-Bit bi-directional translator with auto-direction sensing

Value proposition

- Bidirectional voltage translation with no direction pin
- Bandwidth
 - 100 MHz; $C_L = 30$ pF; 40 MHz; $C_L = 50$ pF
- Bidirectional voltage level translation between:
 - 0.95 V and 1.8 V, 2.5 V, 3.3 V and 5.0 V
 - 1.2 V and 1.8 V, 2.5 V, 3.3 V and 5.0 V
 - 1.8 V and 2.5 V, 3.3 V and 5.0 V
 - 2.5 V and 3.3 V and 5.0 V
 - 3.3 V and 5.0 V
- Hot Insertion
- Low standby current
- 5V tolerant I/O pins to support TTL
- Low R_{ON} for less signal distortion

Parametrics

V_{CC}	Data rate	Prop Delay (t_{PD})	Temperature Range	Current
0.95 V – 5.0 V	50 Mbps	0.7 ns	–40 °C to +125 °C	1 μ A

Key applications

- Open-drain or push-pull applications
- GPIO, MDIO, PMBus, SDIO and UART, I²C and other telecom infrastructure
- Personal computing
- Industrial
- Automotive

Portfolio (released)

- LSF0108PW, LSF0108PW-Q100
- LSF0108BQ, LSF0108BQ-Q100

Package

Package suffix (SOT #)	PW (SOT360-1)	BQ (SOT764-1)
		
Package name	TSSOP20	DHVQFN20
W x L x H, pitch (in mm)	6.4 x 6.5 x 1.1, 0.65	2.5 x 4.5 x 1.0, 0.5

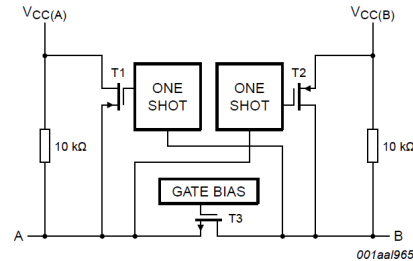
[nexperia.com/LSF0108](https://www.nexperia.com/LSF0108)

Product at a glance NXS0x0x

1-,2-,4-Bit dual supply translating transceivers; open-drain; auto-direction sensing

Value proposition

- Auto-direction sensing – no direction control signal needed
- Wide supply voltage range
 - $V_{CC(A)}$: 1.65 V to 3.6 V
 - $V_{CC(B)}$: 2.3 V to 5.5 V
- V_{CC} isolation feature
- Inputs accept voltage up to 5.5 V
- I_{OFF} circuitry provides partial power-down mode operation
- Low power consumption
- Multiple package options: XQFN12, DQFN14, TSSOP14
- Specified from -40 °C to +85 °C and -40 °C to +125 °C



Key applications

- Open-drain and push-pull applications
- I²C, SMBus, UART, GPIO
- Telecom infrastructure
- Bluetooth headsets & speakers
- Industrial
- Portable GPS devices
- General Portable consumer electronics
- Automotive

Portfolio (released)

- NXS0101GS
- NXS0102GT
- NXS0104PW, NXS0104PW-Q100, NXS0104BQ, NXS0104GU12

Package

Package suffix (SOT #)	BQ (SOT762-1)	GU12 (SOT1174-1)	GT (SOT833-1)	GS (SOT1202)
Package name	DHVQFN14	XQFN12	XSON8	XSON6
W x L x H, pitch (in mm)	2.5 x 3.0 x 1.0, 0.5	1.7 x 2.0 x 0.5, 0.4	1.0 x 1.95 x 0.5, 0.4	1.0 x 1.0 x 0.5, 0.4

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Parametrics

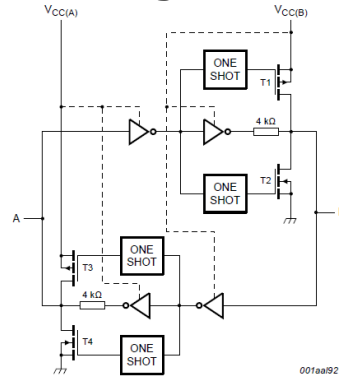
$V_{CC(A)}$	$V_{CC(B)}$	$f_{data} \text{ max}$	Prop Delay (t_{PD})	Temperature Range	Static Current ($I_{CC(A)} + I_{CC(B)}$)
1.65 – 3.6 V	2.3 – 5.5 V	24 Mbps	3.8 ns	-40 °C to 125 °C	< 14.4 μ A (85°C)

Product at a glance NXB0x0x

1-,2-,4-Bit dual supply translating transceivers; auto-direction sensing; 3-state

Value proposition

- Auto-direction sensing – no direction control signal needed
- Wide supply voltage range
 - $V_{CC(A)}$: 1.2 V to 3.6 V
 - $V_{CC(B)}$: 1.65 V to 5.5 V
- V_{CC} isolation feature
- Inputs accept voltage up to 5.5 V
- Low power consumption
- Multiple package options: XQFN12, DQFN14, TSSOP14
- I_{OFF} circuitry provides partial power-down mode operation
- Specified from -40 °C to +85 °C and -40 °C to +125 °C



Key applications

- Push-pull applications
- I²C, SMBus, UART, GPIO and other telecom infrastructure
- Portable GPS devices
- Bluetooth headsets
- Industrial
- General Portable consumer applications
- Automotive

Portfolio (released)

- NXB0101GS
- NXB0102GT
- NXB0104PW, NXB0104PW-Q100, NXB0104BQ, NXB0104GU12

Package

Package suffix (SOT #)	BQ (SOT762-1)	GU12 (SOT1174-1)	GT (SOT833-1)	GS (SOT1202)
Package name	DHVQFN14	XQFN12	XSON8	XSON6
W x L x H, pitch (in mm)	2.5 x 3.0 x 1.0, 0.5	1.7 x 2.0 x 0.5, 0.4	1.0 x 1.95 x 0.5, 0.4	1.0 x 1.0 x 0.5, 0.4

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Parametrics

$V_{CC(A)}$	$V_{CC(B)}$	$f_{data} \text{ max}$	Prop Delay (t_{PD})	Temperature Range	Static Current ($I_{CC(A)} + I_{CC(B)}$)
1.2 – 3.6 V	1.65 – 5.5 V	100 Mbps	6 ns	-40 °C to 125 °C	< 10 μ A (85°C)



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