

LIN Transceiver, Dual

NCV7422

Description

The NCV7422 is a two channel physical layer device using the Local Interconnect Network (LIN) protocol. It allows interfacing of two independent LIN physical buses and the LIN protocol controllers. The device is compliant to ISO 17987-4, LIN2.2a, LIN2.2, LIN2.1, LIN 2.0 and SAEJ2602 standards.

The NCV7422 LIN device is a member of the in-19060 TDdesignedefF0 mun TDe wo Tf.54 0 TD.0922Tc e6y7vehj4118 A

NCV7422

BLOCK DIAGRAM

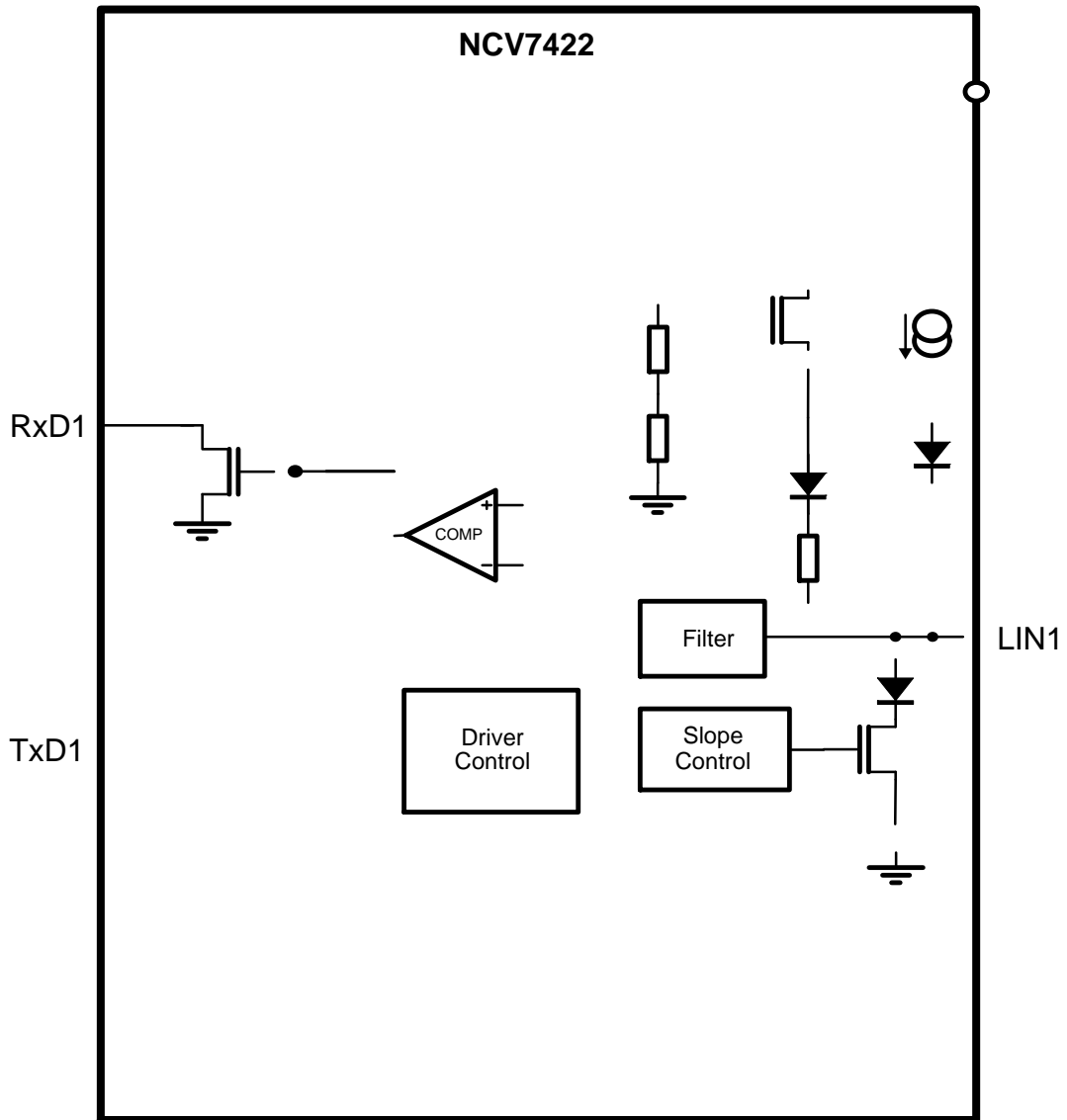


Figure 1. Block Diagram

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TYPICAL APPLICATION DIAGRAM

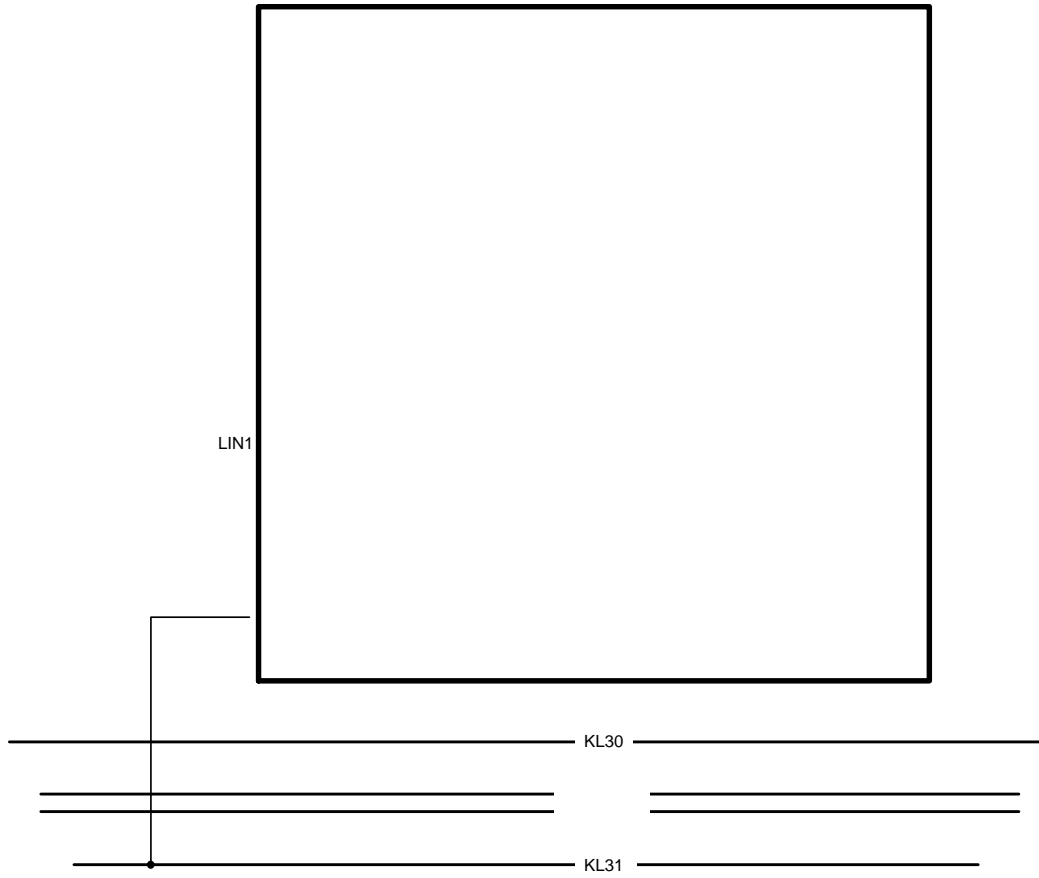
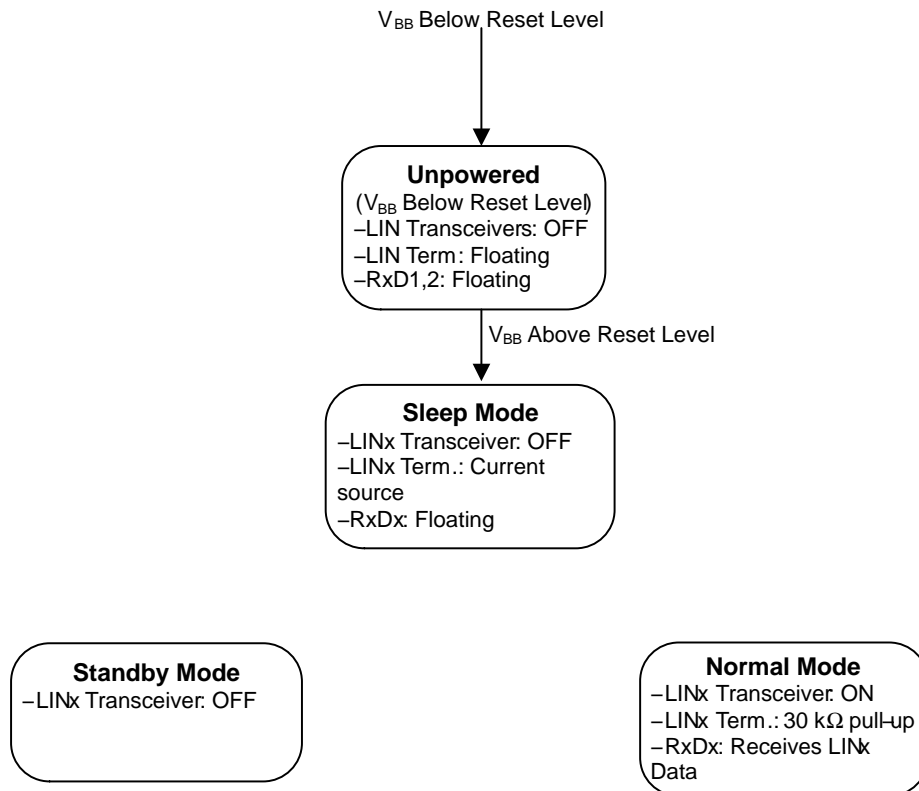


Figure 2. Application Diagram

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ELECTRICAL CHARACTERISTICS

Definitions

All voltages are referenced to GND unless otherwise specified. Positive currents flow into the IC. Sinking current means the current is flowing into the pin; sourcing current means the current is flowing out of the pin.

Table 3. ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min	Max	Unit
V_{BB}	Supply Voltage on Pin V_{BB}	-0.3	+42	V
V_{LINx}	LIN Bus Voltage with respect to GND	-42	+42	V
	LIN Bus Voltage with respect to V_{BB}	-42	+42	V
V_{DIG_IO}	DC Voltage on Pins (ENx, RxDx, TxDx)	-0.3	+7	V
V_{ESD}	Human Body Model (LINx pin) (Note 1)	-8	+8	kV
	Human Body Model (All pins) (Note 1)	-4	+4	kV
	Charge Device Model (All pins) (Note 2)	-750	+750	V
	Machine Model (All pins) (Note 3)	-200	+200	V
V_{ESDIEC}	Electrostatic Discharge Voltage (LINx Pin) System Human Body Model (Note 4) Conform to IEC 61000-4-2	-8	+8	kV
T_J	Junction Temperature	-40	+150	°C

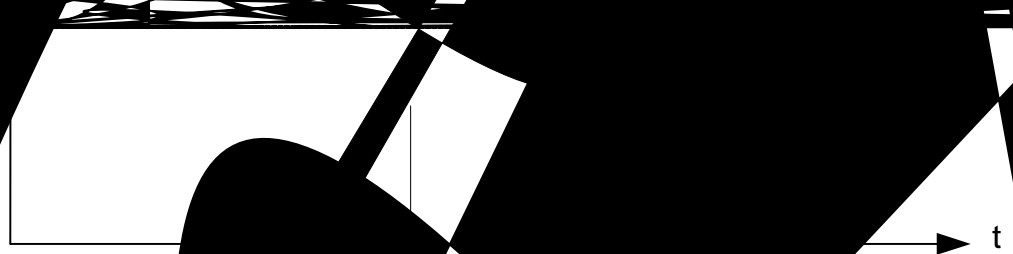
T_{STG}

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Table 6. AC CHARACTERISTICS ($V_{BB} = 5\text{ V to }18\text{ V}$; $T_J = -40\text{ to }+150^\circ\text{C}$; unless otherwise specified. For the transmitter parameters, the following bus loads are considered: $L1 = 1\text{ k}\Omega / 1\text{ nF}$; $L2 = 660\ \Omega / 6.8\text{ nF}$; $L3 = 500\ \Omega / 10\text{ nF}$)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
LIN TRANSMITTER						
D1	Duty Cycle 1 = $t_{BUS_REC(MIN)} / (2 \times t_{BIT})$; See Figure 5	$T_{H_REC(max)} = 0.744 \times V_{BB}$ $T_{H_DOM(max)} = 0.581 \times V_{BB}$				

LIN



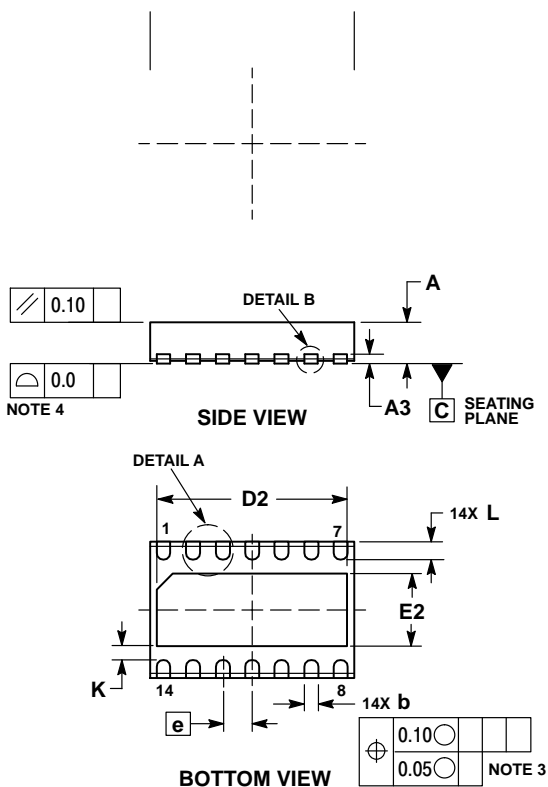
NCV7422



DFNW14 4.5x3, 0.65P
CASE 507AC
ISSUE D

DATE 03 JUL 2018

SCALE 2:1



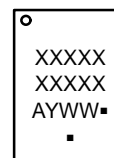
RECOMMENDED

- NOTES:
1. DIMENSIONS AND TOLERANCING PER ASME Y14.5M, 1994.
 2. CONTROLLING DIMENSION: MILLIMETERS
 3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.30 MM FROM TERMINAL COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.
 4. THIS DEVICE CONTAINS WETTABLE DESIGN FEATURES TO AID IN FILLET FORMATION ON THE LEADS DURING MOUNTING.

DIM	MILLIMETERS		
	MIN	NOM	MAX
A	0.80	0.85	
A1	---	---	
A3			
A4			
b	0.25	0.30	
D	4.40	4.50	
D2	4.13	4.20	
E			
E2	1.53	1.60	
e	0.65 BSC		
K			
L	0.35	0.40	
L3			

DOCUMENT NUMBER
DESCRIPTION
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GENERIC MARKING DIAGRAM*



- XXXXX = Specific Device Code
 - A = Assembly Location
 - Y = Year
 - WW = Work Week
 - = Pb-Free Package
- (*Note: Microdot may be in either location)

D

E

*For additional information on our Pb-Free strategy and soldering details, pleo659.301 711.78 491.924 -586.035 reW nBT9 0 0 9 542.4274 673.3984 Tm0 Tc0 Tw(8)TJETQBT/F1 1 Tf8 0 0 8 61.3984 672.9449 Tm-.001

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