LIN Overview

TI Precision Labs – CAN/LIN/SBC

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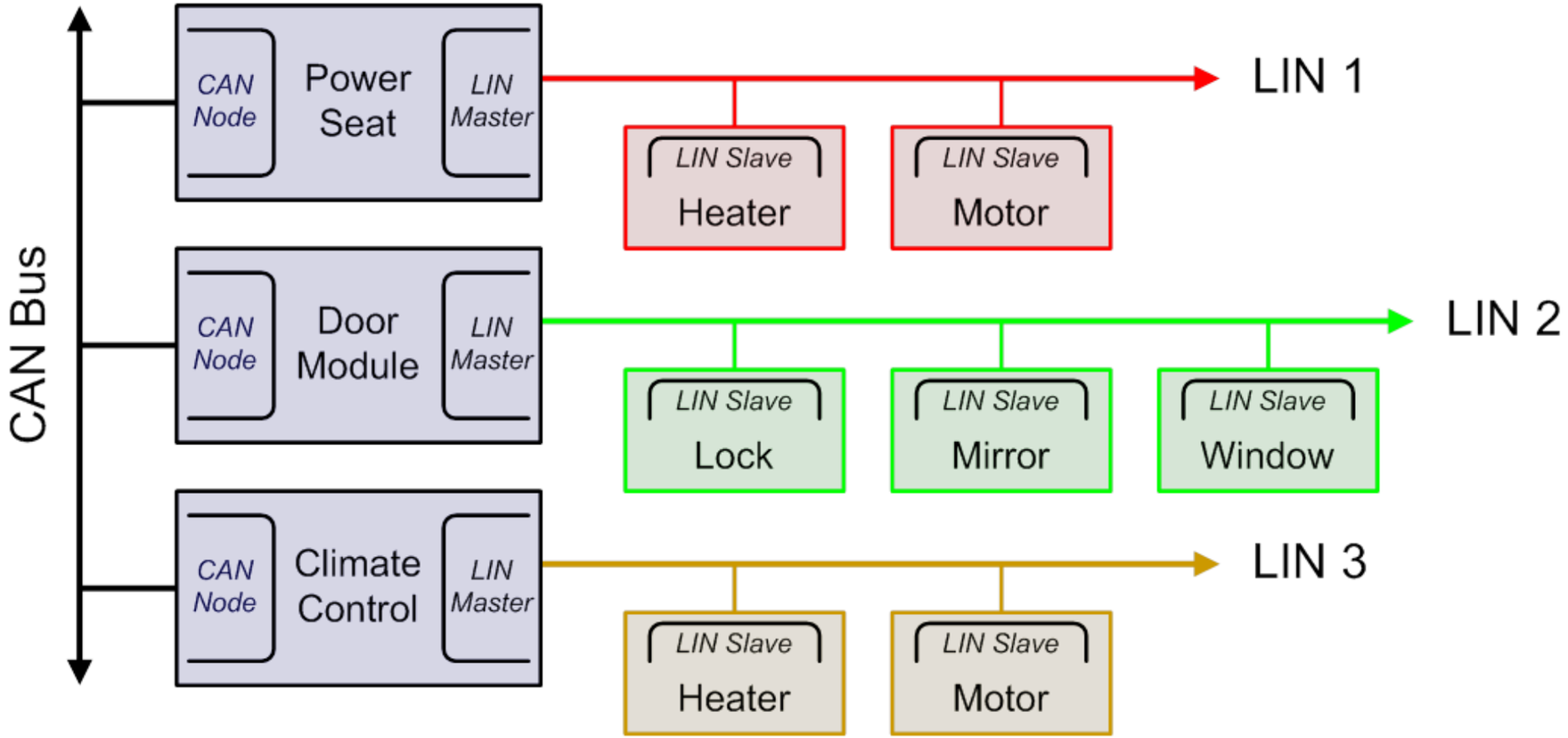
CAN and LIN in automotive applications



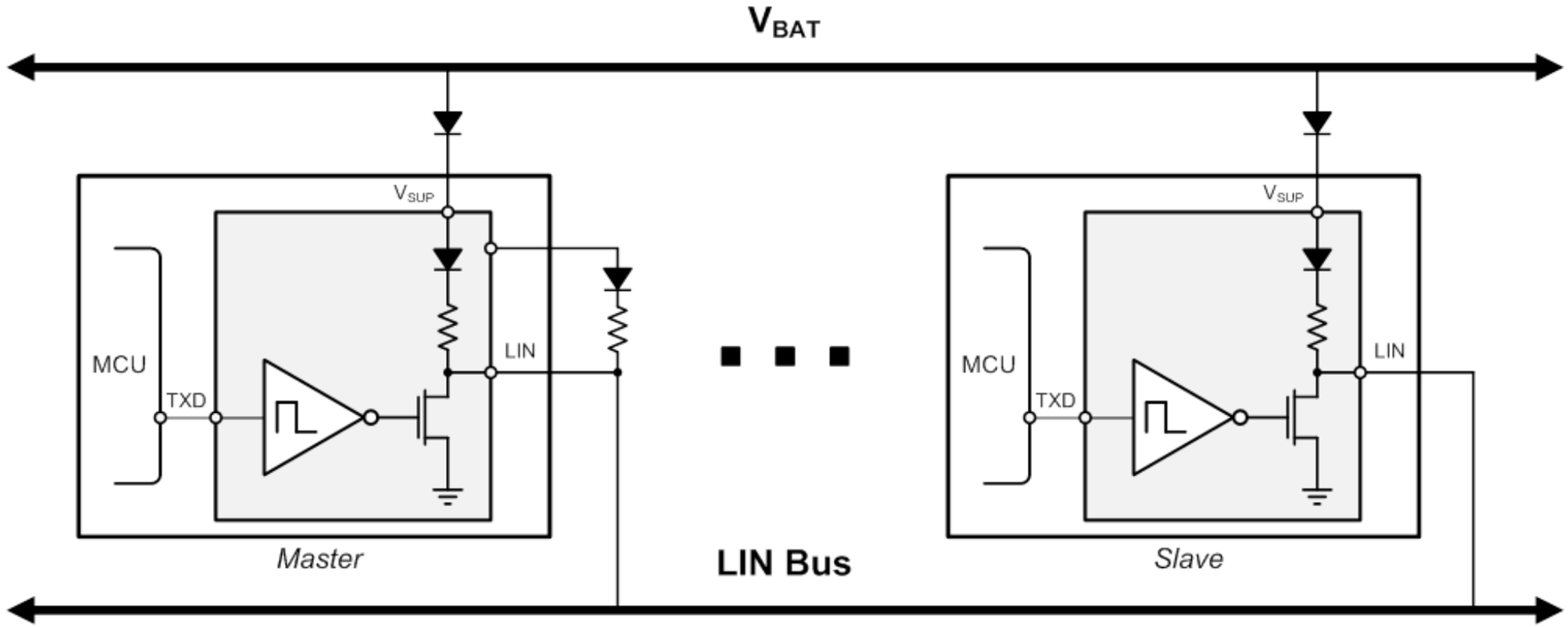
CAN is a main bus

- Differential
- Two-wire
- 1Mbps

LIN is a sub-bus

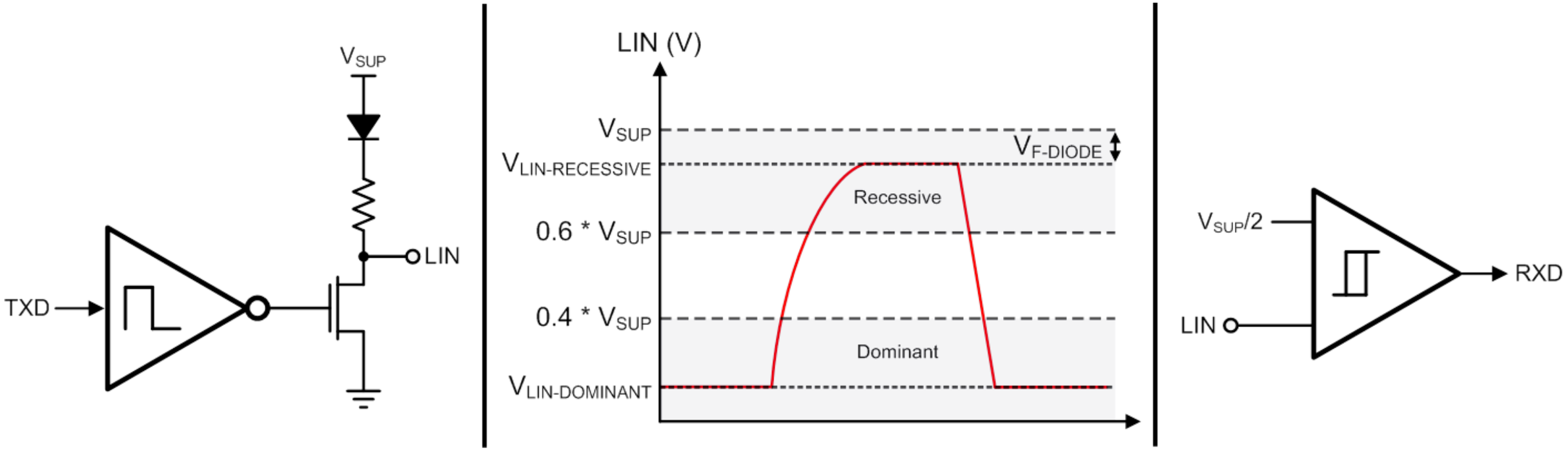
- Single-ended
- One-wire
- 20kbps

Local Interconnect Network (LIN)



- LIN is a broadcasting, serial, one-wire interface, typically implemented as a sub-bus of a CAN network.
- Allows automotive manufacturers to reduce cost by offloading low-speed (<20 kbps), non-safety critical functions from a two-wire CAN bus to a one-wire bus.
- One master coordinates communication between up to 16 slaves.

LIN physical layer



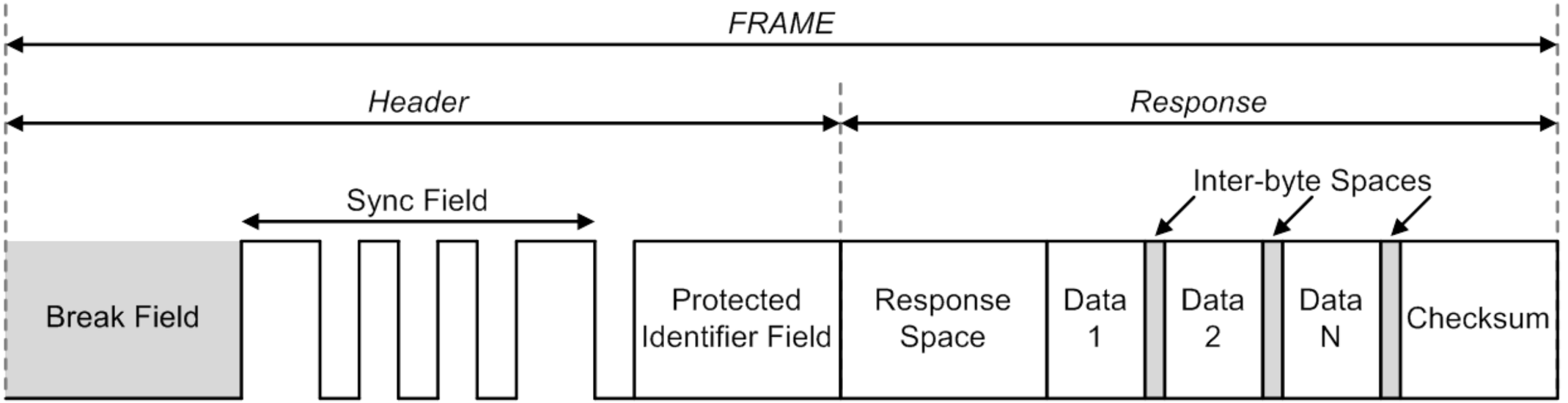
$V_{LIN-REC} = V_{SUP} - V_F$

Recessive when $V_{LIN} \geq 0.6 * V_{SUP}$

$V_{LIN-DOM} = V_{R-ON}$

Dominant when $V_{LIN} \leq 0.4 * V_{SUP}$

LIN physical layer specification



The LIN protocol specification defines:

- **All types of frames that may be sent on the LIN bus**
- **The fields that make up each type of frame**
- **The order of the bits in each field**

The physical layer specification is unchanged for specification versions 1.3 through 2.2A

To find more LIN technical resources and search products, visit ti.com/LIN