


LIN Transceiver with Integrated Vreg 5V 20kBd Automotive 16-Pin VDFN EP T/R

Manufacturer:	Microchip Technology, Inc
Package/Case:	DFN16
Product Type:	Discrete Semiconductor Modules
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

The Microchip's ATA663431/54 system basis chip is a fully integrated LIN transceiver, designed according to the LIN specification 2.0, 2.1, 2.2, 2.2A and SAEJ2602-2, with a low-drop voltage regulator with 3.3V/85mA (ATA663431) or 5V/85mA (ATA663454). Additionally, the device includes a Watchdog, a high-side switch and 2 high-voltage wake inputs: one positive edge sensitive, one negative edge sensitive. This combination makes it possible to develop simple but powerful slave nodes in LIN bus systems. Improved slope control at the LIN driver ensures secure data communication up to 20Kbaud. Sleep mode and silent mode guarantee minimized current consumption even in the case of a floating or a shorted LIN bus. The voltage regulator is a fully integrated low-drop regulator working down to a supply voltage of 2.3V with best-in-class current consumption in linear mode ($2V < V_{VS} < 5V$) with less than 170 μ A. This enables storing data within the MCU during system shutdown even in case of an unexpected power supply interruption.

The device is available in DFN16 package with wettable flanks to enable optical soldering inspection. The footprint is compatible with the ATA663231/54 LIN system basis chip which enables customers to produce modules with/without watchdog by assembling the LIN SBC with watchdog (ATA663431/54) or the ATA663231/54 without watchdog.

Key Features

ISO 26262 FuSa Ready

Supply Voltage up to 40V

Operating Voltage VVS= 5V to 28V

Very low supply current in sleep mode:typ. 10 μ A

Linear Low-Drop Voltage Regulator with 85 mA Current Capability @ VVCC=5.0V, \pm 2%

VCC Undervoltage Detection with Open Drain Reset Output (NRES, 4 ms reset time)

Voltage Regulator is Short Circuit and Overtemperature Protected

Adjustable Watchdog Time via External Resistor

Negative Trigger Input for Watchdog

Limp Home Watchdog Failure Output

LIN Physical Layer according to LIN 2.0, 2.1, 2.2, 2.2A, ISO 17987-4 and SAEJ2602

Bus Pin is Overtemperature and Short Circuit Protected versus GND and Battery

High-Side Switch

Wake-Up Capability via LIN Bus (100 μ s dominant), WKin pin and CL15 pin

Wake-up Source Recognition

TXD Time-out Timer

Advanced EMC and ESD Performance

Fulfills the OEM "Hardware Requirements for LIN in Automotive Applications Rev.1.3"

Interference and Damage Protection According to ISO7637

AEC-Q006 and AEC-Q100 qualified

Package: 16-lead 3 x 5.5 mm VDFN with Wettable Flanks (Moisture Sensitivity Level 1)

Built-In Safety Features

Power-on Reset

Voltage Monitoring (VCC, VS)

Window Watchdog

TXD Dominant Timeout

Recommended For You

ATA6626C-PGQW

Microchip Technology, Inc

QFN

ATA6662C-TAQY

Microchip Technology, Inc

SOP8

ATA6662C-GAQW

Microchip Technology, Inc

SOP8

ATA663231-GBQW

Microchip Technology, Inc
DFN8

ATA6664-GAQW

Microchip Technology, Inc
SOP8

ATA6662-TAQY

Microchip Technology, Inc
SOP-8

ATA663254-GAQW

Microchip Technology, Inc
SOIC-8

ATA663254-GBQW

Microchip Technology, Inc
VDFN-8

ATA663211-GBQW

Microchip Technology, Inc
VDFN-8

ATA663211-GAQW

Microchip Technology, Inc
SOP8

ATA6624C-PGQW-1

Microchip Technology, Inc
VQFN20

ATA6570-GNQW1

Microchip Technology, Inc
SOP14

ATA6630-GLQW

Microchip Technology, Inc
QFN

ATA6625C-GAQW

Microchip Technology, Inc
SOP8

ATA6626-PGQW

Microchip Technology, Inc
QFN