# OKI Semiconductor
ML9620

CAN Controller IC

GENERAL DESCRIPTION

The ML9620 is a microcontroller peripheral LSI which conforms to the CAN protocol for high-speed LANs in automobiles.
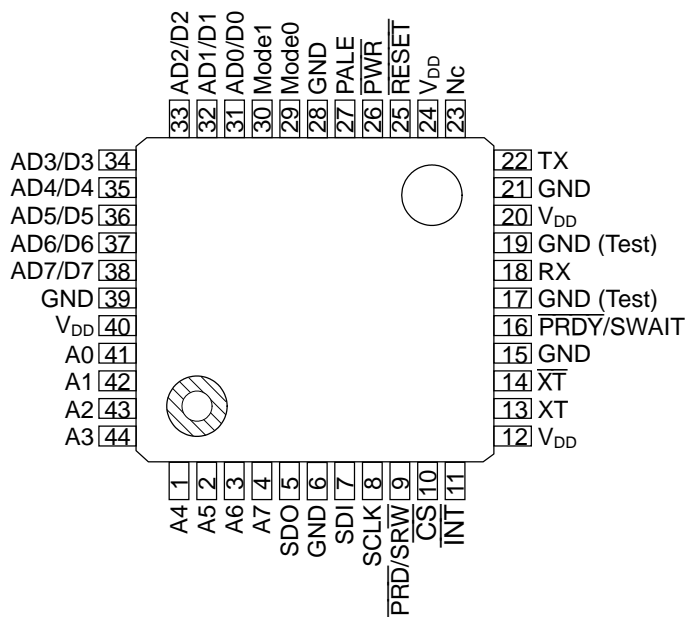
FEATURES

- Conforms to CAN protocol specification (Bosch, V2.0 part B/Active)
- Maximum of 1 Mbps bit rate
- Message box:
  - Up to 32 message boxes can be used, and messages up to 8 bytes long can be transmitted or received for each message box
  - Number of received messages can be extended by group message function
    (Each Message box has its own Identifier Mask)
  - Programmable FIFO mode
- Priority control by message objects number:
  - 2032 types in standard format, 2032×2^{18} types in extended format
- Microcontroller interface:
  - Corresponding to both parallel and serial interface
    Parallel interface: Separate address/data bus type (with address latch signal / no address latch signal) and multiplexed address/data bus type
    Serial interface: Synchronous communication type
  - Three interrupt sources: transmission/receive/error
  - Two message interface register buffer
- Error control:
  - Bit error/stuff error/CRC error/form error/acknowledgment error detection functions
  - Retransmission/error status monitoring function when error occurs
  - Bit error flag/stuff error flag/CRC error flag/form error flag/acknowledge error flag are provided
- Communication control by remote data request function
- Sleep and Stop mode function
- Disable Automatic Retransmission mode for Time Triggered CAN applications

- Supply voltage: 3.3V, 5V
- Clock frequency: 8MHz@V_{DD}=3.3V, 8 to 16MHz@V_{DD}=5 V
- Operating temperature: –40 to +85°C (for Industrial)
  –40 to +125°C (for Automobile)
- Package: 44-pin plastic QFP (QFP44-P-910-0.80-2K)

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BLOCK DIAGRAM

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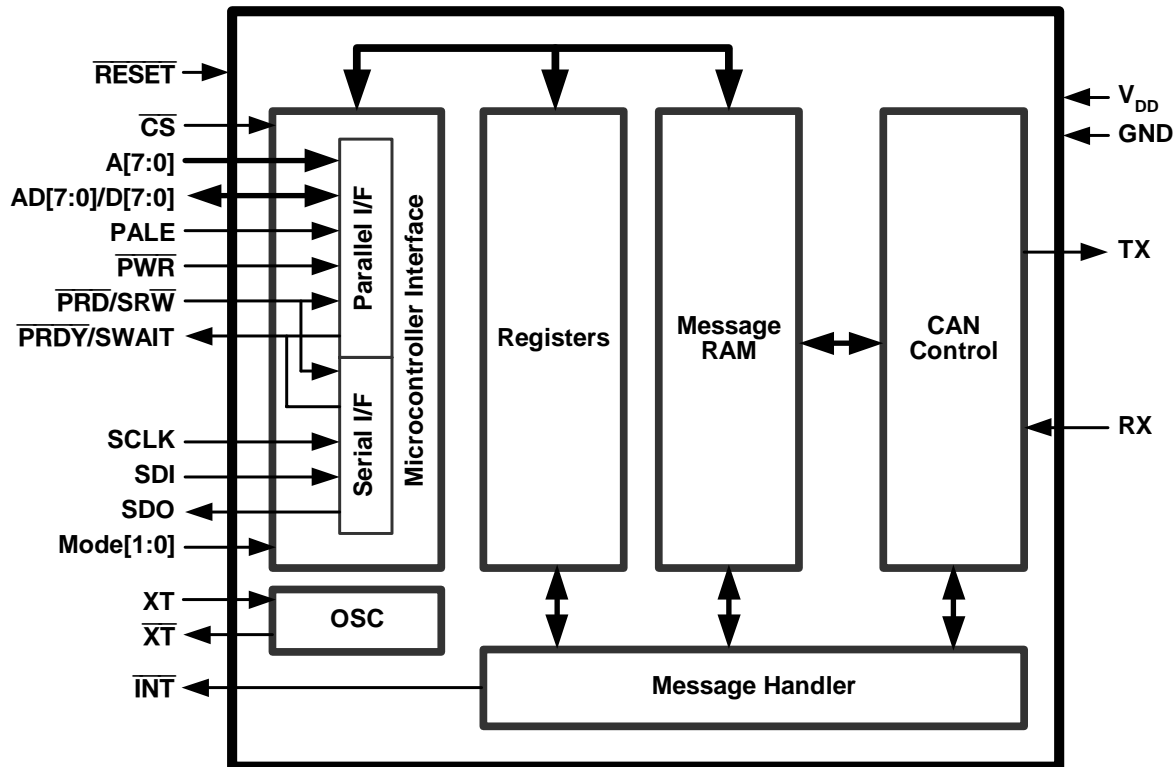
PIN CONFIGURATION (TOP VIEW)

44-Pin Plastic QFP

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ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Condition	Rating	Unit
Power supply voltage	V_{DD}	Ta = 25°C	−0.3 to +7.0	V
Input Voltage	V_{IN}	Ta = 25°C	−0.3 to V_{DD} +0.3	V
Storage temperature	T_{STG}	—	−65 to +150	°C

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Condition	Rating	Unit
Power supply voltage	V_{DD}	3.3V	3.0 to 3.6	V
		5V	4.5 to 5.5	V
Operating temperature	T_{OP}	for Industrial	−40 to +85	°C
		for Automobile	−40 to +125	°C
Master clock frequency	f_{OSC}	V_{DD}=3.3V	8	MHz
		V_{DD}=5V	8 to 16	MHz

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PACKAGE DIMENSIONS

(Unit: mm)

QFP44-P-910-0.80-2K

Package material	Epoxy resin
Lead frame material	42 alloy
Pin treatment	Solder plating ($\geq 5\mu m$)
Package weight (g)	0.41 TYP.
Rev. No./Last Revised	4/Nov. 28, 1996
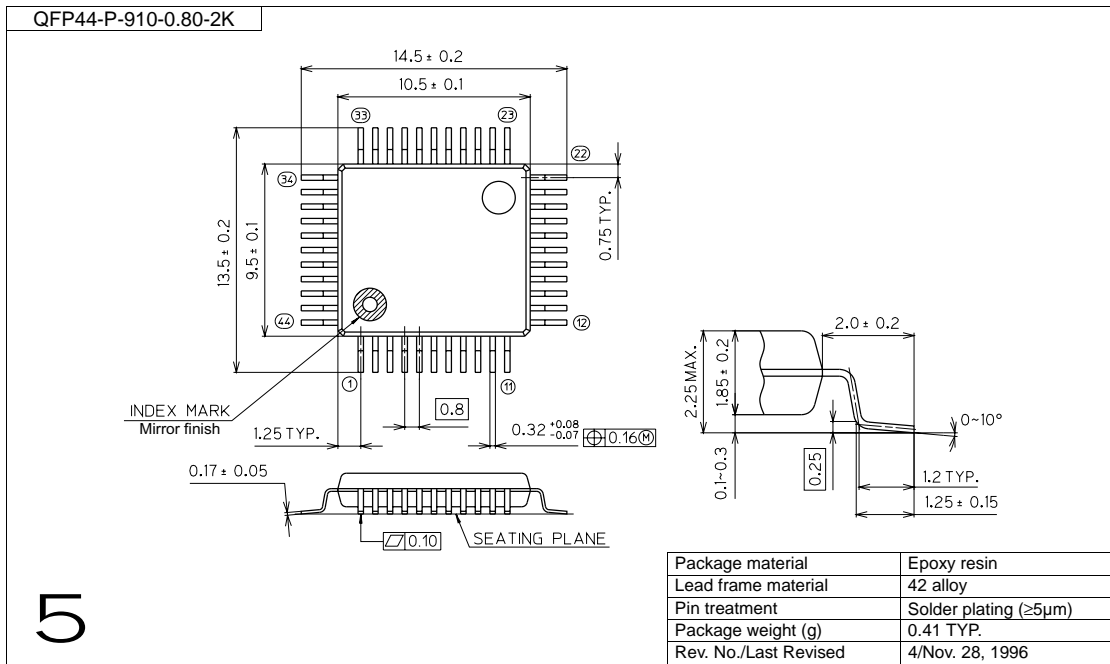
Notes for Mounting the Surface Mount Type Package

The surface mount type packages are very susceptible to heat in reflow mounting and humidity absorbed in storage.
Therefore, before you perform reflow mounting, contact Oki's responsible sales person for the product name, package name, pin number, package code and desired mounting conditions (reflow method, temperature and times).

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REVISION HISTORY

Document No.	Date	Page		Description
		Previous Edition	Current Edition	
FEDL9620-01	Aug. 29, 2003	–	–	First edition

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