NJU77230, NJU77231, NJU77232 Series
NJU77240, NJU77241, NJU77242 Series

NJU77242R-Z2 AEC-Q100 compliant

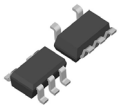
Low I_{SUPPLY} Input Rail-to-Rail Comparator

- **Input Rail-to-Rail can be used for voltage detection in a wide range of applications.**
- **Achieves Low Supply Current (6µA/ch).**
- **Dynamic Transient Stabilizer™ minimize change of the propagation delay time in any regions.**

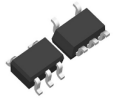
KEY SPECIFICATIONS

- Consumer application (1ch / 2ch)
  / Automotive application (2ch) CMOS Comparator
  NJU7723x : Push-pull output
  NJU7724x : Open drain output
- Operating Temperature: -40 °C to 125 °C
- Operating Voltage: 1.8 V to 5.5 V
- Input Offset Voltage: 6 mV max.
- Supply Current (I_{SUPPLY}): 6 µA / ch typ.
- Rail-to-Rail Input
- Integrated EMI filter
- Propagation Delay (T_{PLH} / T_{PHL}) V_+ = 3.0 V
  NJU7723x : 780 ns / 480 ns typ.
  NJU7724x : 840 ns / 450 ns typ.

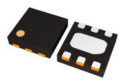
PACKAGE (Unit : mm)



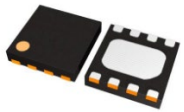
SOT-23-5
(2.9 x 2.8 x 1.1)



SC-88A
(2.0 x 2.1 x 0.9)



DFN6-G1 (ESON6-G1)
(1.6 x 1.6 x 0.427)

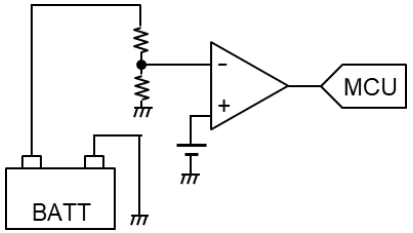


DFN8-U1 (ESON8-U1)
(2.0 x 2.0 x 0. 427)

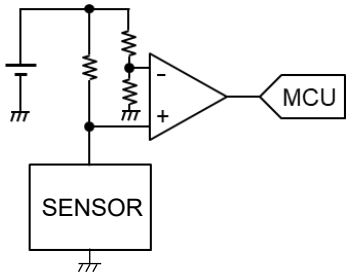
MSOP8 (TVSP8)
(2.9 x 4.0 x 0.9)

MSOP8 (VSP8)
(2.9 x 4.0 x 1.1)

TYPICAL APPLICATIONS



Supply voltage monitoring



Sensor output monitoring

NJU7723x	Push-pull output
NJU7724x	Open drain output
NJU772x0	1ch*
NJU772x1	1ch*
NJU772x2	2ch

*The pin arrangement is different (Refer to p.4)

APPLICATIONS

- Battery-Powered Applications, Sensor Applications for :
  - ・Voltage surveillance circuits
  - ・Sensor output surveillance circuits
  - ・Antenna condition surveillance circuits

- **Input Rail-to-Rail can be used for voltage detection in a wide range of applications.**
- **Achieves Low Supply Current (6μA/ch).**

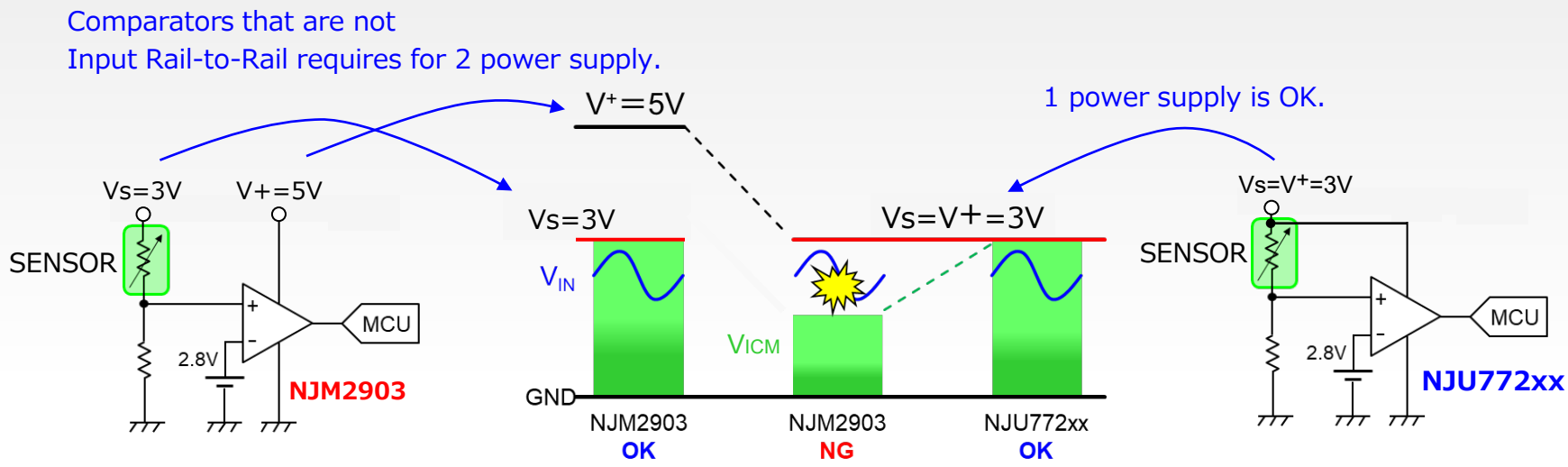
General Issue

- Want to monitor a voltage close to the power supply voltage of the comparator.
- Want to minimize the supply current of the monitoring circuit and protection circuit.

Our Solution

- The NJU772xx series achieves low supply current of 6μA/ch and can detect voltage from power supply level to GND.

■ **Input Rail-to-Rail**



Dynamic Transient Stabilizer™ minimize change of the propagation delay time in any regions.

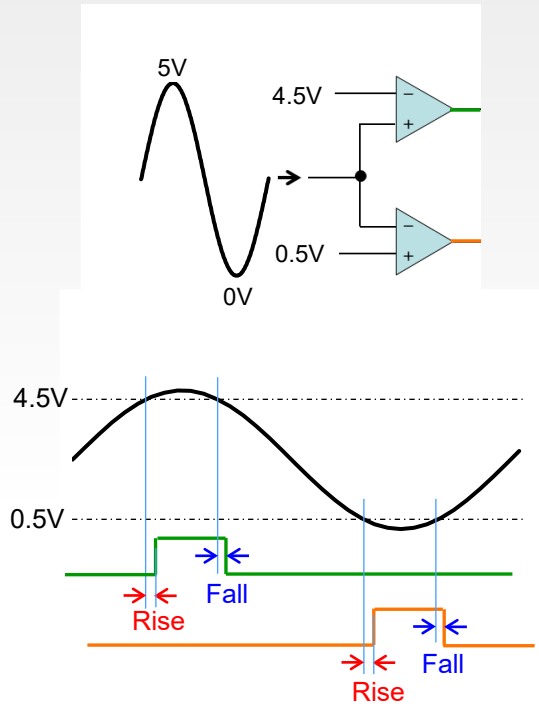
General Issue

- Want to minimize the time gap between High and Low level detections by a window comparator.

Our Solution

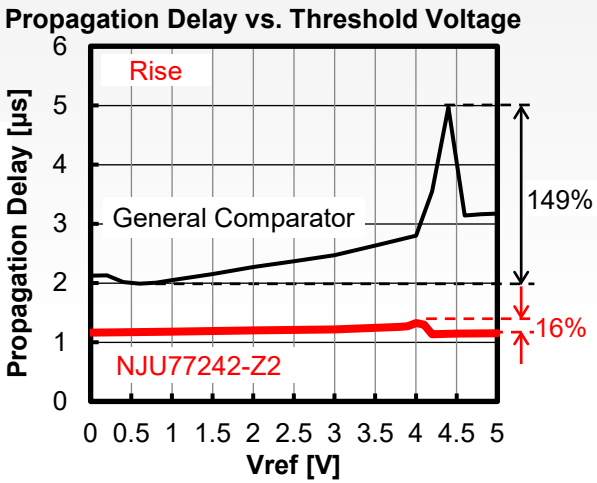
- The Dynamic Transient Stabilizer™, which minimize change of the propagation delay time regardless of the setting value of the reference voltage Vref, provides a stable output response.

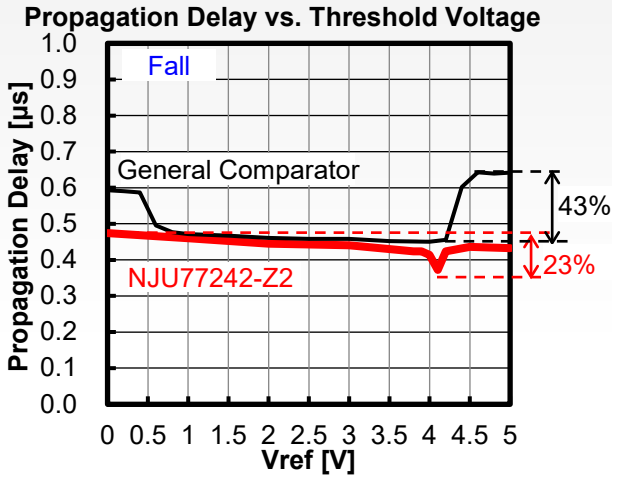
EX) Voltage level detector circuit with a window comparator



Propagation delay time

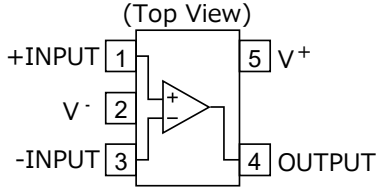
V+/V-=5V/0V, Vov=0.1V RL=5.1kΩ, CL=15pF, T=25℃



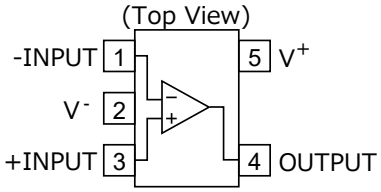


Product Name	Number of circuits	Output	Package	Quantity per Reel	Pb Free	Halogen Free
NJU77230F(TE1)	1	Push-pull	SOT-23-5	3000	○	○
NJU77231F(TE1)	1	Push-pull	SOT-23-5	3000	○	○
NJU77230F3(TE1)	1	Push-pull	SC-88A	3000	○	○
NJU77231F3(TE1)	1	Push-pull	SC-88A	3000	○	○
NJU77231KG1(TE3)	1	Push-pull	DFN6-G1(ESON6-G1)	3000	○	○
NJU77240F(TE1)	1	Open-drain	SOT-23-5	3000	○	○
NJU77241F(TE1)	1	Open-drain	SOT-23-5	3000	○	○
NJU77240F3(TE1)	1	Open-drain	SC-88A	3000	○	○
NJU77241F3(TE1)	1	Open-drain	SC-88A	3000	○	○
NJU77241KG1(TE3)	1	Open-drain	DFN6-G1(ESON6-G1)	3000	○	○
NJU77232KU1(TE3)	2	Push-pull	DFN8-U1(ESON8-U1)	3000	○	○
NJU77242KU1(TE3)	2	Open-drain	DFN8-U1(ESON8-U1)	3000	○	○
NJU77232RB1(TE1)	2	Push-pull	MSOP8(TVSP8)	2000	○	○
NJU77242RB1(TE1)	2	Open-drain	MSOP8(TVSP8)	2000	○	○
NJU77242R-T1(TE1)	2	Open-drain	MSOP8(VSP8)	2000	○	○
AEC-Q100 NJU77242R-Z2(TE1)	2	Open-drain	MSOP8(VSP8)	2000	○	○

The NJU77242R-T1(TE1) is an automotive application, the rest are consumer application.
NJU77242R-T1(TE1) is under AEC-Q100 compliant.
NJU77230F(TE1) and NJU77231F(TE1), NJU77230F3(TE1) and NJU77231F3(TE1), NJU77240F(TE1) and NJU77241F(TE1), NJU77240F3(TE1) and NJU7741F3(TE1) differ only in pin arrangement.
(TE1)(TE3) ; Shows taping direction. Refer to packing specifications.



NJU77230x(TE1)
NJU77240x(TE1)



NJU77231x(TE1)
NJU77241x(TE1)

Nisshinbo Micro Devices Inc.