

NCS2250

Comparator, High Speed, 50 ns, Low Voltage, Rail-to-Rail, Push-Pull

Product Overview

For complete documentation, see the data sheet.

The NCS2250 low voltage comparators feature fast response time and rail-to-rail input and output. The extended common mode input voltage range allows inputs signals 200 mV above and below the rails, allowing voltage detection at ground or the supply. A propagation delay of 50 ns with a 100 mV overdrive makes this comparator suitable for applications requiring faster response times. These single channel devices are available with a complementary push-pull output in the NCS2250 and are offered in SOT23-5 and SC70-5 packages. Automotive qualified devices are also available, denoted by the NCV prefix.

Features

- Propagation delay: 50 ns with 100 mV overdrive
- Rail-to-rail input: VSS -200 mV to VDD +200 mV
- Supply voltage: 1.8 V to 5.5 V
- Supply current: 150 μ A typical at 5 V supply
- Push-pull output
- Packages: SC-70 and SOT23-5
- AEC-Q100 qualified and PPAP capable options available

Applications

- Voltage threshold detector
- Zero-crossing detectors
- High-speed sampling circuits
- Logic level shifting/translation
- Clock and data signal restoration

Benefits

- Fast propagation to meet high speed sampling needs
- Flexible use across a wide range of input signals including the supply rails
- Low voltage supply capable down to 1.8V allows the device to be compatible with low voltage systems
- Low supply current reduces power consumption
- Ready for high-z load or input pins
- Available in small packages
- Meets automotive requirements

End Products

- Automotive
- Lighting
- Smartphones, cell phones
- Portable and battery-powered systems
- Power supplies

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Channels	V _{CC} Min (V)	V _{CC} Max (V)	I _O Typ (mA)	I _{CC} Typ (mA)	t _{res} Typ (ns)	V _{IO} Max (mV)	T _A Min (°C)	T _A Max (°C)	Package Type
NCS2250SN2T1G	0.1212		Active	1	1.8	5.5	50	0.15	50	6	-40	125	TSOP-5 / SOT-23-5
NCS2250SQ2T2G	0.1212		Active	1	1.8	5.5	50	0.15	50	6	-40	125	SC-88A / SC-70-5
NCV2250SN2T1G	0.1442		Active	1	1.8	5.5	50	0.15	50	6	-40	125	TSOP-5 / SOT-23-5
NCV2250SQ2T2G	0.1442		Active	1	1.8	5.5	50	0.15	50	6	-40	125	SC-88A / SC-70-5

Application Diagram

