

■ General Description

The TCS9581, TCS9582 are single, dual and quad amplifiers featuring rail-to-rail input and output swings, which has ultralow offset, drift and bias current. All are guaranteed to operate from +1.8 V to +5 V single supply.

With an offset voltage of only 80 μ V and drift of 20 nV/ $^{\circ}$ C, the TCS9581 is perfectly suited for applications where error sources cannot be tolerated. Temperature, position and pressure sensors, medical equipment and strain gage amplifiers benefit greatly from nearly zero drift over their operating temperature range. The rail-to-rail input and output swings provided by the TCS9581 family make both high-side and low-side sensing easy.

The TCS9581 series is specified for the extended industrial/automotive (-40° C to $+125^{\circ}$ C) temperature range. The TCS9581 single is available in 5-lead SOT and 8-lead SOP/MSOP packages.

■ Applications

- Temperature Measurements
- Pressure Sensors
- Precision Current Sensing
- Electronic Scales
- Strain Gage Amplifiers
- Medical Instrumentation
- Thermocouple Amplifiers
- Handheld Test Equipment

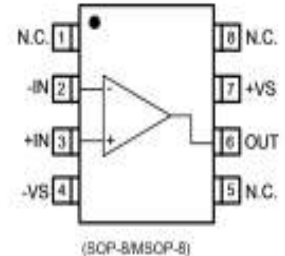
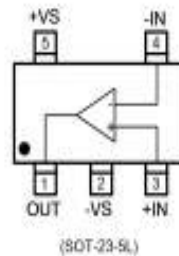
■ Absolute Maximum Ratings

◇ Supply Voltage.....	6V
◇ Input Voltage.....	$-VS+0.3V$ — $+VS+0.3V$
◇ Differential Input Voltage.....	$-5.0V$ to $+5.0V$
◇ Package Thermal Resistance @ $T_A = 25^{\circ}$ C	
SOT-23-5L.....	190 $^{\circ}$ C/W
MSOP-8.....	216 $^{\circ}$ C/W
SOP-8.....	125 $^{\circ}$ C/W

■ Features

- Low Offset Voltage: 25 μ V (TYP)
- Rail-to-Rail Input and Output Swing
- 1.8V to 5.0V Single Supply Operation
- Voltage Gain: 145dB (TYP)
- PSRR: 115dB (TYP)
- CMRR: 110dB (TYP)
- Low Input Bias Currents: 130pA
- Low Supply Current: 450 μ A/Channel
- Overload Recovery Time: 0.1ms
- No External Capacitors Required
- -40° C to $+125^{\circ}$ C Operating Temperature Range
- Small Packaging:
TCS9581 Available in Green SOT-23-5L, SOP8 and MSOP8

■ Package



◇ Storage temperature range.....	-65° C to 150° C
◇ Operating junction temperature.....	-40° C to 125° C
◇ ESD Human Model.....	4000V
◇ Lead Temperature Range (Soldering 10 sec)	
.....	260 $^{\circ}$ C