



TSZ SERIES

High-precision, zero-drift op amp



Precision and low power consumption for high-accuracy sensor interfaces

The **TSZ series** of operational amplifiers offer low power consumption and zero-drift in compact packages. These amplifiers implement a chopper-stabilized architecture that minimizes offset voltages and drift, making them ideal for high-accuracy sensor interfaces. Despite their miniature size, these ultra-precise amplifiers offer high-impedance inputs with a common-mode range of 100 mV beyond the rails and rail-to-rail output that ranges within 50 mV of the rails. They are qualified for automotive applications at 125°C, 150°C, and 175°C maximum temperatures.

KEY FEATURE & BENEFITS

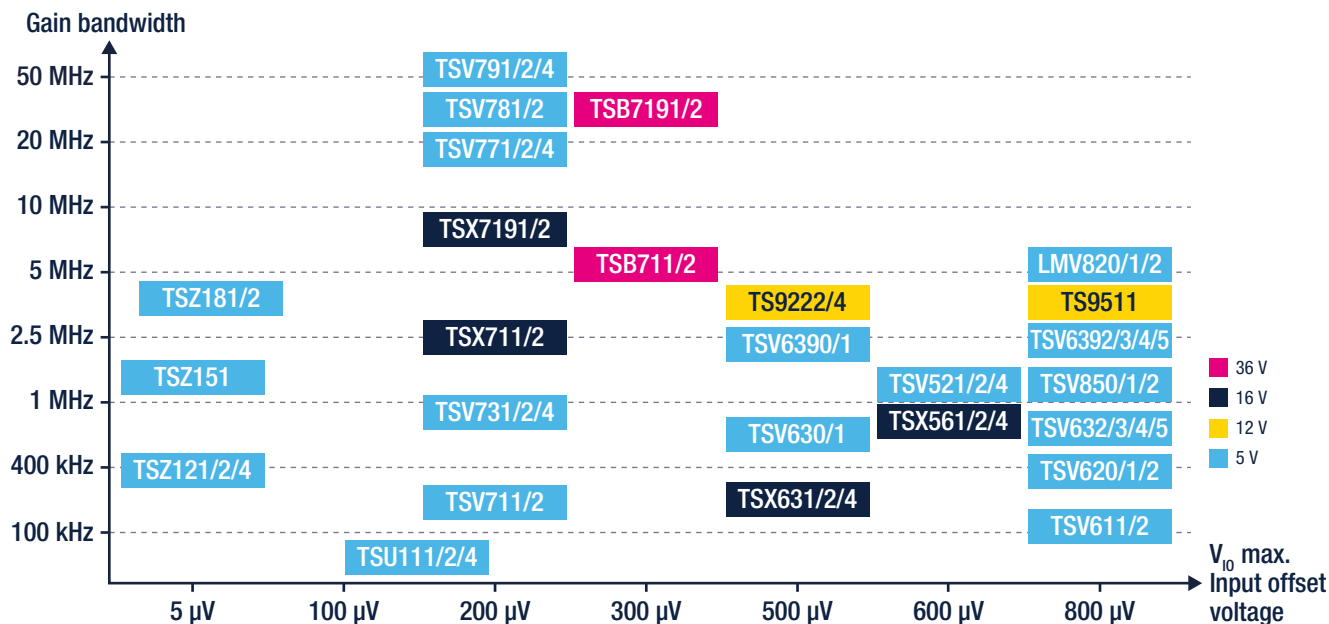
- Offset: (TSZ12 series)
 - $\pm 1 \mu\text{V}$ typ.
 - $\pm 8 \mu\text{V}$ max.
- Offset drift: (TSZ12 series)
 - 10 nV/°C typ.
 - 30 nV/°C max.
- 400 kHz GBW (TSZ12 series)
- 1.6 MHz GBW (TSZ151)
- 3 MHz GBW (TSZ18 series)
- Operating range: 1.8 to 5.5 V
- Temperature range:
 - -40 to 125°C (optionally up to 175°C)
- Rail-to-rail input and output
- ESD: 4 kV HBM
- AEC-Q100 qualified

KEY APPLICATIONS

- Portable instrumentation
- Battery-powered devices
- Sensor interfaces
- Medical instrumentation
- Electronic scales
- Temperature measurement
- Automotive current measurement
- Gearbox, brake, and exhaust systems
- Engine controller unit (ECU)



High-precision operational amplifiers



TSZ family

Part number	Automotive	Package	Icc (µA) typ.	SR (V/µs) typ.	N° channels	Temperature	
Gain bandwidth product (MHz) typ. 0.4							
TSZ121ICT		SC70-5	31	0.19	1	-40 to 125°C	
TSZ121ILT		SOT23-5					
TSZ121IYLT	•	S08					
TSZ122IYDT	•						
TSZ122IDT		MiniS08			2		
TSZ122IYST	•						
TSZ122IST					DFN8		4
TSZ122IQ2T							
TSZ124IQ4T							
TSZ124IPT							
TSZ124IYPT	•	TSSOP14					
Gain bandwidth product (MHz) typ. 1.6							
TSZ151ICT		SC70-5	210	0.8	1	-40 to 125°C	
TSZ151IYCT	•	SOT23-5					
TSZ151ILT							
TSZ151IYLT	•						
Gain bandwidth product (MHz) typ. 3							
TSZ181IQ1T		DFN6	800	4.7	1	-40 to 125°C	
TSZ181ILT		SOT23-5					
TSZ181IYLT	•						
TSZ181HYLT	•						
TSZ181H1YLT	•				MiniS08		2
TSZ182IQ2T							
TSZ182IST		S08					-40 to 125°C
TSZ182IYST	•						
TSZ182IDT	•						
TSZ182IYDT	•						
TSZ182HYDT	•	-40 to 150°C					
TSZ182H1YDT	•		-40 to 175°C				



X-NUCLEO-IKA01A1
Multifunctional expansion board based on operational amplifiers (TSZ124, TSU104, TSV734) for STM32 Nucleo



P-NUCLEO-IKA02A1
STM32 Nucleo pack: electrochemical toxic gas sensor expansion board with CO sensor



STEVAL-CCA022V1
Evaluation board for SOT23 and SC70



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