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Automotive Op Amps Sample kit

Making driving safer, greener and more connected

Automotive grade Qualification process



Our automotive products meet the specific and rigorous requirements of the automotive market. This is the result of continuous and reliability improvements gained through our close collaboration with leading automotive suppliers and car makers. From product conception to delivery and beyond our constant focus on learning and upgrading our quality processes, ensure we reach the highest level of excellence in the semiconductor industry.

Part number (example)	Product Grade	Process control T84	Visual inspection of wafers	EWS	PPAT GPAT	SBL SYL	Thermal cycles	Final electrical test	Junction verification test	PPAP report
TSV912IDT	Non AG	Sampling	Sampling	Sampling	No	100 %	No	25 °C	No	No
TSV912IYDT	Grade 1	100 %	100 %	100 %	Yes	100 %	Yes	25 °C and 125 °C	125 °C	Yes
TSV912HYDT	Grade 0	100 %	100 %	100 %	Yes	100 %	Yes	25 °C and 150 °C	150 °C	Yes

Compliance with:

- IATF16949
- VDA 6.3
- AEC-Q100
- AEC-Q001
- AEC-Q002
- PPAP provided

Specific part numbering:

- **Y** for Automotive products
- **H** for High-temperature (150 °C) products

0.01 ppm*

Note *: Parts per million, based on 0 km returns on AG parts at automotive customers for year 2019

Automotive samples

Up to 70 V	TSC101CIYLT	TSC1031IYPT

Up to 36 V	LM2904WHYDT		LM2903YQ3T
	TSB572IYQ2T	TSB611IYLT	TSB712IYST

Up to 16 V	TSX921IYLT	TSX3702IYDT

Up to 5.5 V	TSV911IYLT	TSV912HYDT	TSZ182IYST
	TS3021HIYLT	TS3011IYQ3T	TS3022IYST

Note : Samples for evaluation only



Grade 0 (150 °C)

Amplifiers and comparators

Perfectly suitable in extreme temperature environments like engine control, in-gearbox modules and safety-critical systems, these devices can operate safely from -40 to +150 °C !

Product	Description	Package
LM2901HYDT	36 V, general-purpose quad-channel comparator	S014
LM2903HYDT	36 V, general-purpose dual-channel comparator	S08
LM2903HYPT	36 V, general-purpose dual-channel comparator	TSSOP8
LM2903WHYST	36 V, general-purpose dual-channel comparator with enhanced ESD	Mini S08
TS3021HIYLT	5 V, high-speed, single-channel comparator	S0T23-5
LM2904AHYPT	30 V, general-purpose dual-channel operational amplifier	TSSOP8
LM2904WHYDT	30 V, general-purpose dual-channel operational amplifier with enhanced ESD	S08
LM2904WHYST	30 V, general-purpose dual-channel operational amplifier with enhanced ESD	Mini S08
TSV912HYDT	5 V, rail-to-rail I/O dual-channel operational amplifier	S08

Main applications



Engine control



In-gearbox modules



Safety-critical systems

DFN wettable flanks packages

The main purpose of the side-wettable flanks is to facilitate a reliable AOI (Automated Optical Inspection) capability for small-sized DFN packages. Another important benefit is that the mechanical robustness of the bond to the PCB is improved when compared to devices without side-wettable flanks.



Product	Description	Package (mm)
TS3011YQ3T	5 V, rail-to-rail high-speed comparator	DFN8 2x2 WF
LM2903YQ3T	36 V, general-purpose dual-channel comparator	DFN8 2x2 WF
TSB572YQ2T	36 V, low-power, 2.5 MHz, rail-to-rail I/O, BiCMOS op amp	DFN8 3x3 WF
TS972YQ2T	Output rail-to-rail very low-noise op amp	DFN8 3x3 WF

ST op amps mobile application

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Automotive Analog Brochure

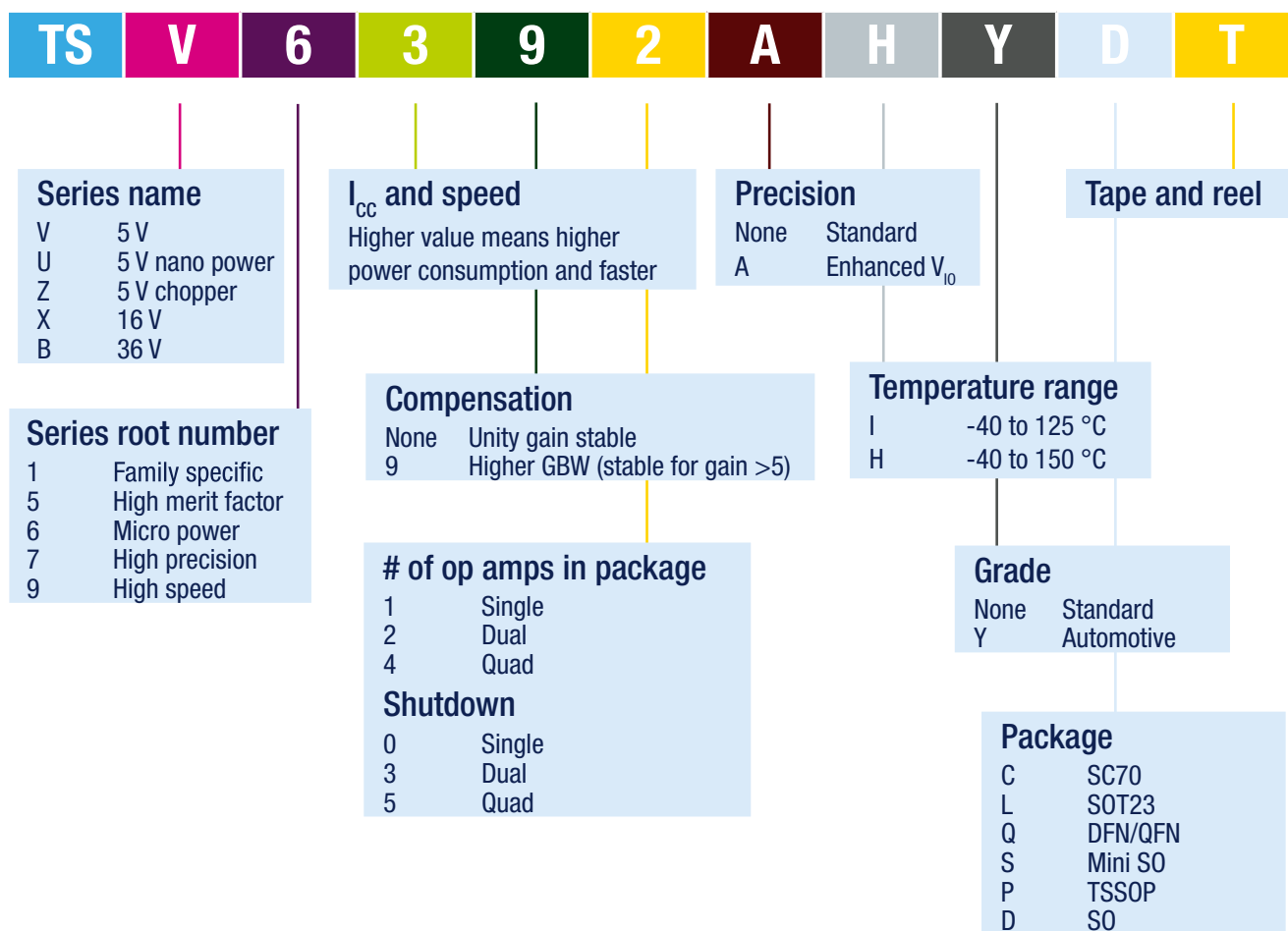
Automotive Standard Analog  life.augmented
Robustness and Performance



ST op amps in automotive

Our automotive-grade op amps meet the requirements of extreme reliability and quality demanded by the automotive market and applications. ST provides a continuously growing portfolio supporting temperature ranges that can go up to 150 °C and offering space-saving packages (such as DFN, QFN and Mini SO).

ST op amps naming



Product	Description	Package
Operational amplifiers		
LM2904WHYST	30 V, low-power dual bipolar, 150 °C op amp	Mini S08
TSB572IYQ2T	36 V, low-power dual rail-to-rail BiCMOS op amp in side-wettable flanks	DFN8 3x3
TSB611IYLT	36 V, low-power, rail-to-rail output, op amp	SOT23-5
TSB712IYST	36 V, precision, 6 MHz, rail-to-rail I/O, BiCMOS op amp	Mini S08
TSV911IYLT	5 V, wide bandwidth 8 MHz, single rail-to-rail I/O CMOS op amp	SOT23-5
TSV912HYDT	5 V, wide bandwidth 8 MHz, 150 °C, dual rail-to-rail I/O CMOS op amp	S08
TSX921IYLT	16 V, wide bandwidth 10 MHz, single rail-to-rail I/O CMOS op amp	SOT23-5
TSZ182IYST	5 V, very-high-accuracy, zero drift, CMOS op amp	Mini S08
Comparators		
LM2903YQ3T	36 V, low-power dual bipolar comparator in side-wettable flanks	DFN8 2x2
TS3011IYQ3T	5 V, rail-to-rail, high-speed comparator in side-wettable flanks	DFN8 2x2
TS3021HIYLT	1.8 V, rail-to-rail, high-speed, 150 °C comparator	SOT23-5
TS3022IYST	5 V, rail-to-rail, high-speed micropower comparator	Mini S08
TSX3702IYDT	16 V, micropower dual CMOS push-pull comparator	S08
Current sensing		
TSC101CIYLT	High-side current sense amplifier	SOT23-5
TSC103IYPT	High-voltage high-side current sense amplifier	TSSOP8

CONTACT

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