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Automotive Infotainment and Telematics

Overview

ST is a world leading supplier of integrated circuits for in-car entertainment (ICE): with our components you can design a complete infotainment head unit or telematics system.

Designing with ST components you can benefit from our expertise in system integration and state-of-the-art technologies that provide outstanding levels of audio fidelity, positioning accuracy in every condition, secure smartphone mirroring, and support for all multimedia devices.

We aim to make driving experience more fun and comfortable in every vehicle, including in eco-cars requiring low fuel consumption and reduced CO2 emissions.

Audio Power Amplifiers

Global Navigation Satellite System ICs

Automotive Infotainment SoCs

Radio receivers



From standard class-AB and very high efficient class-SBI to full digital class-D power amplifiers.



Multi-constellation positioning ICs for Global Navigation Satellite System (GNSS), compatible with GPS, Galileo, GLONASS, BeiDou, and QZSS navigation systems



Automotive infotainment SOCs include processors and controllers for CD players. Infotainment processors are single or dual ARM® Cortex® cores, able to process all media management, connectivity and audio decoding functions for invehicle infotainment systems



Highly integrated AM/FM, Terrestrial and Satellite Digital Broadcast and multi-standard radio receiver ICs

Telematics and Connectivity Processors



Telematics ARM® Cortex® microprocessors for modem-independent telematics solutions, from low-end eCall boxes to highend smart antenna systems

Power management ICs



Multichannel voltage regulators, with multiple DC-DC, linear regulators and additional features that enable their usage in infotainment, telematics, electronic control units and clusters

Automotive Audio Power Amplifiers

Overview

ST is the recognized leader in automotive power amplifiers. Our car audio amplifiers provide the traditional clean and powerful sound that users have come to expect, as well as all the protection and safety features needed to make our devices robust in an automotive environment.

ST has an extensive portfolio of automotive power amplifiers, including class B, AB, SB (high-efficiency), SB-I, and class D devices, with or without an I²C interface and diagnostic features. We offer a range of packages and pin-to-pin compatible ICs, covering different power requirements and supporting one to four channels. Our latest power amplifiers are compatible with start-stop engines.

Class AB Audio Power Amplifiers

Class-D Audio Power Amplifiers





From standard class-AB to very high efficient class-SBI power amplifiers. Standard or intelligent, featuring a reliable diagnostics array able to identify any failure or speaker miss-connection, with analog or digital input

Full-digital amplifier ICs for powerful high-quality audio experiences. Provide outstanding efficiency and special features for diagnostics and sound enhancement

Automotive Infotainment and Telematics / Automotive Audio Power Amplifiers/Automotive Class-AB Audio Power Amplifiers

Automotive Infotai	inment and Telematics / Automotive Audio Power Amplifiers/Automotive Class-AB A	Audio Power Amplifiers									
Part Number	Constant Description	Darkers	Number of	Gain	Output Power (W) (@ V _{cc} =14.4V, 10%	Output Power (W) (@ V _{cc} =15.2V;10%THD,	Load (Ω)	Diamontina	Supply	Operating	Operating
Part Number	General Description	Package	Channels	Capability (dB)	THD, $R_1=4\Omega$) typ	$R_i=4\Omega$) max	min	Diagnostics	(V) min	Temperature (°C) min	Temperature (°C) max
		FLEXIWATT 25 HB,FLEXIWATT 27		(==)	,	· (···) · · · · ·			(-,	(-)	(-,
STPA001	4 x 50 W MOSFET quad bridge power amplifier	HB,FLEXIWATT FM2 25,FLEXIWATT	4	26	28	50	2	no	6	-40	105
		FM2 27									
STPA002	4 x 52 W quad bridge power amplifier with low voltage operation	FLEXIWATT FM2 25,FLEXIWATT	4	26	30	52	2	no	6	-40	105
51171002	1 x 32 tr quad bridge power unipliner trial for voltage operation	FM2 27	·		30	32	_	0	Ů	.0	103
STPA003	4 x 52 W quad bridge power amplifier with low voltage operation	FLEXIWATT FM2 25,FLEXIWATT FM2 27	4	26	30	52	2	no	6	-40	105
		FLEXIWATT 25 HB,FLEXIWATT FM2									
STPA008	4 x 50 W MOSFET quad bridge power amplifier	25,FLEXIWATT FM2 27	4	26	28	50	2	no	6	-40	105
STPA008ZS	4 x 50 W MOSFET quad bridge power amplifier	PowerSO 36	4	26	28	50	2	no	6	-40	105
TDA7375AV	2 x 37 W dual/quad power amplifier for car radio	MW 15L	2	26 / 20	26	47	2	by pin	8	-40	105
TDA7375V	2 x 35W dual/quad power amplifier for car radio	MW 15L	2	26 / 20	25	44	2	by pin	8	-40	105
TDA7376B	2 x 35 W Power amplifier for car radio	MW 15L	2	26	25	44	2	by pin	8	-40	105
TDA7376PD	2 x 35 W power amplifier for car radio	PowerSO 36	2	26	25	44	2	no	8	-40	105
TDA7381	4 x 25 W quad bridge car radio amplifier	FLEXIWATT FM2 25	4	26	18	34	4	by pin	8	-40	105
TDA7384A	4 x 46 W quad bridge car radio amplifier	FLEXIWATT FM2 25	4	26	27	46	4	no	8	-40	105
		FLEXIWATT 25 HB,FLEXIWATT FM2					_				
TDA7385	4 x 42 W quad bridge car radio amplifier	25	4	26	23	42	4	by pin	8	-40	105
		FLEXIWATT FM2 25,FLEXIWATT									
TDA7387	4 x 41 W quad bridge car radio amplifier	ePad	4	26	22	41	4	no	8	-30,-40	105,85
TDA7388	4 x 45 W quad bridge car radio amplifier	FLEXIWATT FM2 25	4	26	26	45	4	no	8	-40	105
TDA7388A	4 x 42 W quad bridge car radio amplifier	FLEXIWATT FM2 27	4	26	27	46	4	by pin	8	-40	105
TDA7391	35 W bridge car radio amplifier	MW 11L	1	30	26	45	3.2	by pin	8	-40	105
TDA7391LV	40 W bridge car radio amplifier with low voltage operation	MW 11L,PowerSO-20	1	30	26	45	3.2	by pin	6	-40	105
TDA7391PD	32 W bridge car radio amplifier	PowerSO-20	1	30	26	45	3.2	by pin	8	-40	105
TDA7396	Differential input, single BTL output power amplifier with clip detection	MW 11L	1	26	27	46	2	by pin	8	-40	105
		FLEXIWATT 25 HB,FLEXIWATT FM2	4					,,			
TDA7560	4 x 51 W quad bridge car radio amplifier	25	4	26	30	51	2	no	8	-40	105
TDA7561	Multifunction quad power amplifier with built-in diagnostics features	FLEXIWATT FM2 25	4	26 / 12	25	45	2	by I2C bus	8	-40	105
TDA75610DLVPD	4 x 45 W differential power amplifier with full I2C diagnostics, high efficiency and	PowerSO 36	4	26 / 16	25	45	2	by pin and I2C bus	6	-40	105
	low voltage operation		·	,				-, p			
	4 x 45 W differential power amplifier with full I2C diagnostics, high efficiency and	FLEXIWATT 27 HB,FLEXIWATT FM2									
TDA75610SLV	low voltage operation	27,OUTLINE FW 27 SMD,PowerSO	4	26 / 16	27	45	2	by I2C bus	6	-40	105
	low voltage operation	36									
TDA75612LV	4 x 45 W power amplifier with full I2C diagnostics, SSR and low voltage operation	FLEXIWATT FM2 27	4	30 / 16	25	45	2	by I2C bus	6	-40	105
15/1/301221	TX 15 TO power dissplace with rail 120 diagnostics, 55% did for Totalge operation	TEEMWATTI THE EX		30 / 10	23	.5		57 120 505		.0	103
TDA75616LV	4 x 45 W power amplifier with full I2C diagnostics, SSR and low voltage operation	FLEXIWATT FM2 27	4	26 / 16	25	45	2	by I2C bus	6	-40	105
								,			
TDA7562	MULTIFUNCTION QUAD POWER AMPLIFIER WITH BUILT-IN DIAGNOSTICS FEATURES	FLEXIWATT FM2 27	4	30 / 16	25	45	2	by I2C bus	8	-40	105
TDA7562B	4 x 46 W multifunction quad power amplifier with built-in diagnostics features	FLEXIWATT FM2 27	4	30 / 16	25	45	2	by I2C bus	8	-40	105
	Intelligent quad BTL output power amplifier with full I2C diagnostics and stand-										
TDA7562BEP	by/mute input	FLEXIWATT ePad	4	30 / 16	25	45	2	by I2C bus	8	-40	105
		FLEXIWATT 27 HB,FLEXIWATT FM2							_		
TDA7563A	4 x 50 W power amplifier with high efficiency and built-in I2C diagnostic	27,OUTLINE FW 27 SMD	4	26 / 12	28	50	2	by I2C bus	8	-40	105
		FLEXIWATT 27 HB.FLEXIWATT FM2							_		
TDA7563B	4 x 50 W multifunction quad power amplifier with built-in diagnostics feature	27,PowerSO 36	4	30 / 16	28	50	2	by I2C bus	8	-40	105
		·		/							
TDA7567PD	4 x 50 W differential quad power amplifier with built-in diagnostics features	PowerSO 36	4	26 / 16	28	50	2	by I2C bus	8	-40	105
TD 4 75 CODDILLOD	4 x 50 W differential power amplifier with full I2C diagnostics, high efficiency and	D CO 26		25 / 45	20		•	1	_	40	405
TDA7569BDLVPD	low voltage operation	PowerSO 36	4	26 / 16	28	50	2	by pin and I2C bus	6	-40	105
	4 x 50 W differential power amplifier with full I2C diagnostics, high efficiency and	FLEXIWATT FM2 27,OUTLINE FW									
TDA7569BLV	low voltage operation	27 SMD,PowerSO 36	4	26 / 16	28	50	2	by pin and I2C bus	6	-40	105
	2 x 75W multifunction dual-bridge power amplifier with integrated digital	·	_					1			
TDA7575B	diagnostics	FLEXIWATT FM2 27,PowerSO 36	2	26 / 12	28	45	2	by I2C bus	8	-40	105
TDA7576B	Dual bridge MOSFET power amplifier for 24 V systems	MW 15L	2	26	28	45	4	by pin	8	-40	105
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The service of the se					1		1			
2 x 75 W dual-bridge power amplifier with I2C complete diagnostics and "start-stop" profile (6 V operation)	FLEXIWATT FM2 27,PowerSO 36	2	26 / 16	28	50	2	by I2C bus	6	-40	105
High efficiency digital input quad power amplifier with built-in diagnostics features, "start stop" compatible	FLEXIWATT FM2 27,OUTLINE FW 27 SMD,PowerSO 36	4	16 / 10.5 / 8 / 2.5	28	50	2	by I2C bus	6	-40	105
High efficiency digital input automotive quad power amplifier with built-in diagnostics features, start stop compatible	FLEXIWATT FM2 27,OUTLINE FW 27 SMD,PowerSO 36	4	-	27	45	1	by I2C bus	6	-40	105
High efficiency digital input automotive quad power amplifier, ?start stop? compatible	FLEXIWATT FM2 27,FLEXIWATT ePad,PowerSO 36	4	-	27	45	4	by I2C bus	6	-40	105
4 x 50 W MOSFET quad bridge power amplifier	FLEXIWATT 25 HB,FLEXIWATT FM2 25	4	26	30	52	2	no	8	-40	105
Quad BTP output with HSD, offset detection , stand-by and mute inputs	FLEXIWATT 27 HB,FLEXIWATT FM2 27	4	26	30	52	2	no	8	-40	105
4 x 48 W MOSFET quad bridge power amplifier	FLEXIWATT FM2 27	4	26	28	48	2	no	8	-40	105
4 x 48 W MOSFET quad bridge power amplifier	FLEXIWATT 25 HB,FLEXIWATT FM2 25	4	26	28	48	2	no	8	-40	105
4 x 48 W MOSFET quad bridge power amplifier	FLEXIWATT FM2 25	4	26	28	48	2	no	8	-40	105
High efficiency digital input automotive quad power amplifier with built-in diagnostics features, Class-G integrated, "start stop" compatible	PowerSO 36	-	-	-	-	-	-	-	-	-
10 + 10 W stereo amplifier for car radio	MW 11L	2	adjustable	6.5	-	2	no	8	-40	105
20 W bridge/stereo amplifier for car radio	MW 11L	2	adjustable	6.5	-	2	no	8	-40	105
Low voltage operation, intelligent, quad BTL output power amplifier with full I2C diagnostics including tweeter detection and hardware stand-by/mute	FLEXIWATT FM2 27,PowerSO 36	4	26 / 16	27	45	2	by pin and I2C bus	6	-40	105
Low voltage operation, high efficiency (class SB), intelligent, quad BTL output power amplifier with speaker safety routine (SSR), full I2C diagnostics including tweeter detection and hardware stand-by/mute	FLEXIWATT FM2 27	4	30 / 16	25	45	2	by I2C bus	6	-40	105
4 x 50W multifunction quad power amplifier with built-in diagnostics feature	FLEXIWATT FM2 25	4	26 / 12	28	50	2	by I2C bus	8	-40	105
Intelligent high efficiency (class SB) quad BTL ouput with full I2C diagnostics, built in step up and mute input	FLEXIWATT FM2 27	4	26 / 12	27	48	2	by I2C bus	8	-40	105
4 x 40 W multifunction quad power amplifier with built-in diagnostics features	FLEXIWATT FM2 25	4	26 / 12	25	45	2	by I2C bus	8	-40	105
"Digital input quad power amplifier with built-in diagnostics features	FLEXIWATT FM2 27,PowerSO 36	4	16 / 10.5 / 8 / 2.5	28	50	2	by I2C bus	8	-40	105
	High efficiency digital input quad power amplifier with built-in diagnostics features, "start stop" compatible High efficiency digital input automotive quad power amplifier with built-in diagnostics features, start stop compatible High efficiency digital input automotive quad power amplifier, ?start stop? compatible High efficiency digital input automotive quad power amplifier, ?start stop? compatible 4 x 50 W MOSFET quad bridge power amplifier Quad BTP output with HSD, offset detection , stand-by and mute inputs 4 x 48 W MOSFET quad bridge power amplifier 4 x 48 W MOSFET quad bridge power amplifier High efficiency digital input automotive quad power amplifier with built-in diagnostics features, Class-G integrated, "start stop" compatible 10 + 10 W stereo amplifier for car radio 20 W bridge/stereo amplifier for car radio Low voltage operation, intelligent, quad BTL output power amplifier with full I2C diagnostics including tweeter detection and hardware stand-by/mute Low voltage operation, high efficiency (class SB), intelligent, quad BTL output power amplifier with speaker safety routine (SSR), full I2C diagnostics including tweeter detection and hardware stand-by/mute 4 x 50W multifunction quad power amplifier with built-in diagnostics feature lintelligent high efficiency (class SB) quad BTL output with full I2C diagnostics, built in step up and mute input 4 x 40 W multifunction quad power amplifier with built-in diagnostics features	profile (6 V operation) High efficiency digital input quad power amplifier with built-in diagnostics features, "start stop" compatible High efficiency digital input automotive quad power amplifier with built-in diagnostics features, start stop compatible High efficiency digital input automotive quad power amplifier, "start stop? ELXIWATT FM2 27, DUTLINE FW 27 SMD, PowerSO 36 High efficiency digital input automotive quad power amplifier, "start stop? ELXIWATT FM2 27, FLEXIWATT characteristic powers of the start stop of the start stop of the start stop of the start stop of the start stop? LEXIWATT FM2 27, FLEXIWATT EW 27, FLEXIWATT FM2 27 LEXIWATT ST HB, FLEXIWATT FM2 27 LEXIWATT FM2 27, FLEXIWATT FM2 25 High efficiency digital input automotive quad power amplifier with built-in diagnostics features, class-G integrated, "start stop" compatible Low voltage operation, intelligent, quad BTL output power amplifier with speaker safety routine (SSR), full I2C diagnostics including tweeter detection and hardware stand-by/mute Low voltage operation, high efficiency (class SB), intelligent, quad BTL output power amplifier with speaker safety routine (SSR), full I2C diagnostics including tweeter detection and hardware stand-by/mute Low voltage operation, high efficiency (class SB), under the built-in diagnostics feature Low voltage operation, and hardware stand-by/mute Low voltage operation, and hardware stand-by/mute Low voltage operation, intelligent, quad BTL output power amplifier with speaker safety routine (SSR), full I2C diagnostics including tweeter detection and hardware stand-by/mute Low voltage operation, and hardware stand-by/mute Low voltage operation, and hardware stand-by/mute Low voltage operation, and hardware stand-by/mute Low v	profile (6 V operation) High efficiency digital input quad power amplifier with built-in diagnostics features, "start stop" compatible High efficiency digital input automotive quad power amplifier with built-in diagnostics features, start stop compatible High efficiency digital input automotive quad power amplifier, ?start stop? ELEXIWATT FM2 27, OUTLINE FW 27 SMD, PowerSO 36 4 High efficiency digital input automotive quad power amplifier, ?start stop? ELEXIWATT FM2 27, OUTLINE FW 27 SMD, PowerSO 36 4 High efficiency digital input automotive quad power amplifier, ?start stop? ELEXIWATT EM2 27, ELEXIWATT ePad, PowerSO 36 4 ELEXIWATT 25 HB, FLEXIWATT FM2 25 Quad BTP output with HSD, offset detection , stand-by and mute inputs ELEXIWATT 27 HB, FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT 25 HB, FLEXIWATT FM2 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT 25 HB, FLEXIWATT FM2 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT 25 HB, FLEXIWATT FM2 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT 59 HB, FLEXIWATT FM2 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT 59 HB, FLEXIWATT FM2 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 25 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 25 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 25 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWATT FM2 27 4 × 48 W MOSFET quad bridge power amplifier FLEXIWA	profile (6 V operation) High efficiency digital input quad power amplifier with built-in diagnostics features, FLEXIWATT FM2 27, OUTLINE FW 27 SMD, PowerSO 36 4 /2.5 High efficiency digital input automotive quad power amplifier with built-in diagnostics features, start stop compatible 27 SMD, PowerSO 36 4 /2.5 High efficiency digital input automotive quad power amplifier, ?start stop? ELEXIWATT FM2 27, OUTLINE FW 27 SMD, PowerSO 36 4 /2.5 High efficiency digital input automotive quad power amplifier, ?start stop? ELEXIWATT FM2 27, OUTLINE FW 27 SMD, PowerSO 36 4 - FLEXIWATT FM2 27, ELEXIWATT FM2 28, ELEXIWATT FM2 28, ELEXIWATT FM2 28, ELEXIWATT FM2 28, ELEXIWATT FM2 29, ELEXIWATT FM2 29, ELEXIWATT FM2 29, ELEXIWATT FM2 29, ELEXIWATT FM2 27, PowerSO 36 - ELEXIWATT FM2 27, PowerSO 36, ELEXIWATT FM2 27, ELEX	profile (6 V operation) High efficiency digital input quad power amplifier with built-in diagnostics features, 127 SMD, PowerSO 36	Internation Internation	Profile (6 V operation) FLEXIWATT FMZ 27, OUTLINE FW 27 SMD, PowerSO 36 2	In profile (6 V operation) In profile (6 V operation) In this Hefficiency digital input quad power amplifier with built-in diagnostics features, 1start stop" compatible In this Hefficiency digital input automotive quad power amplifier with built-in diagnostics features, 27 SMD, PowerSO 36 In profit (1925) In pr	profile (6V operation) HIELENWAIT IFM. 21/POWERSO 36 High efficiency digital input quad power amplifier with built-in diagnostics features, 'start stop' compatible High efficiency digital input automotive quad power amplifier with built-in diagnostics features, start stop compatible 27 SMD, PowerSO 36 High efficiency digital input automotive quad power amplifier, 'start stop?' Compatible PEXIWAIT FM2 27, OUTLINE FW 27 SMD, PowerSO 36 High efficiency digital input automotive quad power amplifier, 'start stop?' Compatible PEXIWAIT FM2 27, FLEXIWAIT PRAZ 27, FL	Profile (6) Coperation PELXIWATT IN 27 / Proverous 2

Automotive Infotainment and Telematics / Automotive Audio Power Amplifiers/Automotive Class-D Audio Power Amplifiers

Part Number	otainment and Telematics / Automotive Audio Power Amplifiers/Autor	Package	Number of Channels nom	Output Power (W) (@ V_{CC} =14.4V, 10% THD, R_L =4 Ω) typ	Load (Ω) min	Diagnostics	Supply Voltage (V) min	Operating Temperature (°C) min	Operating Temperature (°C) max
FDA801	4x50 W class-D digital input power amplifier with I2C diagnostics and low voltage operation	LQFP	4	30	1	by I2C bus	6	-40	105
FDA801B	4 x 50 W class-D digital input power amplifier with I2C diagnostics, digital impedance meter (DIM) and low voltage operation	LQFP	4	30	1	by I2C bus	6	-40	105
FDA802A	2x150 W/1x300 W class D digital input automotive power amplifier with diagnostics features and low voltage	LQFP	2	28	1	by I2C bus	5.5	-40	105
FDA802AB	2x150 W/1x300 W class D digital input automotive power amplifier with diagnostics features and low voltage	LQFP	2	28	1	by I2C bus	5.5	-40	105
FDA802S	2 channels class-D digital input automotive power amplifier with I2C diagnostics and low voltage operation for car radio applications	LQFP	2	28	1	by I2C bus	5.5	-40	105
FDA802SB	2 channels class-D digital input automotive power amplifier with I2C diagnostics and low voltage operation for car radio applications	LQFP	2	28	1	by I2C bus	5.5	-40	105
FDA803D	1 x 45 W class D digital input automotive power amplifier with diagnostics, wide voltage operation range for car audio and telematics	PowerSSO 36	1	30	2	by I2C bus	3.3	-40	125
FDA803Q	Channel class D digital input automotive power amplifier with diagnostics, wide voltage operation range for car audio and telematics	VFQFPN 48 7x7x1.0 mm	1	30	2	by I2C bus	3.3	-40	125
FDA803S	$1 \times 10 \ \text{W}$ class D digital input automotive power amplifier with diagnostics, wide voltage operation range for car audio and telematics	QFN-32L WF	1	30	2	by I2C bus	3.3	-40	125
FDA803U	1 x 45 W class D digital input automotive power amplifier with diagnostics, wide voltage operation range for car audio and telematic	PowerSSO 36	1	30	2	by pin and I2C bus	3.3	-40	125
FDA901	4 x 50 W class-D digital input power amplifier with load current monitoring and low voltage operation	LQFP	4	30	1	by I2C bus	6	-40	105
FDA903D	1 x 45 W class D digital input automotive power amplifier with ILoad current monitoring, wide voltage operation range for car audio and telematic	PowerSSO 36	1	30	2	by pin and I2C bus	3.3	-40	125
FDA903Q	1 Channel class D digital input automotive power amplifier with diagnostics, wide voltage operation range for car audio and telematics	VFQFPN 48 7x7x1.0 mm	1	30	2	by pin and I2C bus	3.3	-40	125
FDA903S	1x10W class D digital input automotive power amplifier with diagnostics, wide voltage operation range for car audio and telematics	QFN-32L WF	1	30	2	by I2C bus	3.3	-40	125

FDA903U	$1\mathrm{x}$ 45 W class D digital input automotive power amplifier with ILoad current monitoring, wide voltage operation range for car audio and telematic	PowerSSO 36	1	30	2	by pin and I2C bus	3.3	-40	125
HFDA801A	4x80W digital input class-D automotive audio amplifier with Hi-Fi audio quality, advanced diagnostics, 2MHz switching frequency and High Resolution Bandwidth	LQFP	4	30	2	by I2C bus	4.5	-40	105
HFDA802	2 x 80 W digital input class-D automotive audio amplifier with Hi-Fi audio quality, advanced diagnostics, 2 MHz switching frequency and High Resolution Bandwidth	LQFP	2	30	2	by pin and I2C bus	4.5	-40	105
FDA2100BLV	$2 \times 180 \text{ W} / 1 \times 300 \text{ W}$ PWM digital input automotive power amplifier with built-in diagnostics features and step-up drive	TQFP 64 10x10x1.0	2	29	1	by I2C bus	6	-40	105
FDA2100LV	$2\times180\ \text{W}$ / $1\times300\ \text{W}$ PWM digital input power amplifier with built-in diagnostics features and step-up driver	TQFP 64 10x10x1.0	2	29	1	by I2C bus	6	-40	105
FDA4100LV	$4\times135~W~/~2\times270~W$ PWM digital input automotive power amplifier with I2C diagnostics, step-up driver and low voltage operation	HI-QUAD92 14x20	4	29	1	by I2C bus	6	-40	105
FDA450LV	4 x 50 W PWM digital input power amplifier with built-in diagnostics features and low voltage operation	TQFP 100 14x14x1.0	4	29	1	by I2C bus	6	-40	105
FDA802	2x150 W/1x300 W class D digital input automotive power amplifier with diagnostics features and low voltage	LQFP	2	28	1	by I2C bus	5.5	-40	105

Automotive Audio Processors

Overview

ST's wide portfolio of analog and digital signal processors covers the full range of features and channel configurations for the car-audio application spectrum, from low-end solutions to high-end premium audio systems. More than 40 analog signal processors offer a large choice for the number of inputs, number of output channels, and baseband audio functions, including EQ, dynamic compressors, subsonic filters, and more. Alternatively, a fully digital solution with embedded 20-bit audio ADCs and DACs is based on a proprietary 24-bit DSP specifically crafted for audio applications.

Depending on the product, ST signal processors feature:

- Selectable differential and single-ended analog input source (AM/FM, tape, CD/DVD, phone/Navi aux)
- Selectable digital input sources supporting the most common standards (l²S, S/PDIF)
- Various output configurations
- Balance, fader, tone and volume control, graphic equalization, subsonic filters, dynamic compressors, and more
- Dual media play
- FM stereo decoder

Automotive Infotainment and Telematics/Automotive Audio Processors

Part Number	General Description		Operating Voltage (V) max		Outputs	Interfaces	Loudness	AC Coupling	Equalizer (Bands)	Package
TDA7303	audio processor with loudness	6	10.2	3xSE	4	I2C	true	true	2	SO-28
TDA7419	3Band Car Audio processor	8	10	3xSE; 1xQD	4	I2C	true	true	3	SO-28
TDA7719	Automotive 3 band car audio processor	7.5	10	4xQD/ 2xQD+3xSE/ 1xQD+5xSE/ 1xQD+3xSE+2xMD/ 3xQD+1xFD/ 3xQD+2xSE/ 1xQD+2xSE+1xFD+1xMD/ 1xQD+3xSE+1xFD	4	I2C	true	true	3	TSSOP-28
TDA7418	3 BAND CAR AUDIO PROCESSOR	8	10	3xSE;1xSE/QD	4	I2C	true	-	3	SO-20
TDA7718B	3 band car audio processor	7.5	10	1xQD; 3xSE; 1xFD	6	I2C	true	false	3	TSSOP-28
TDA7718N	3 band car audio processor	7.5	10	1xQD, 3xSE, 1xFD	6	I2C	true	true	3	TSSOP-28

Automotive Infotainment SoCs

Overview

ST's portfolio of infotainment systems on chips (SOCs) includes a complete offer of automotive-grade devices for a wide range of infotainment systems ranging from turnkey for car radio applications and Display Audio systems, featuring smartphone mirroring and support of rear-view cameras, up to powerful with best-in class 3D graphics and video decoding capabilities, to address multi-standard smartphone replication technology as well as Digital Instrument Cluster applications.

with robust embedded software solutions for digital music connectivity (USB, SD, and iPod) are also available through the Accordo+ product family.

Automotive Infotainment and Telematics / Automotive Infotainment SoCs/Infotainment Processors

Part Number	General Description	Package		CPU Clock Frequency (MHz) max	Security	Supply Voltage (V) min	Voltage	Operating Temperature (°C) min	Operating Temperature (°C) max	Grade
STA1080	Automotive Dual Core Processor for Car Radio and Display Audio application	LFBGA 361 16x16x1.7	Arm Cortex-R4	-	-	1.14	1.26	-40	85	Automotive
ISTA1085	Accordo2 Dual Core CortexR4/CortexM3 processor, with embedded SRAM, integrated DSP sound subsystem, audio ADCs and DACs, isolated CAN MCU for car radio applications	LFBGA 361 16x16x1.7	Arm Cortex-R4	450,600	Boot Authentication,Boot Authentication (Locked)	1.14	1.26	-40	85	Automotive
STA1090	Accordo 2 Dual Core 32-bit ARM Cortex-R4 / Cortex-M3 processor, with embedded SRAM, integrated DSP sound subsystem, audio ADCs and DACs, for Car Radio and Display Audio applications	LFBGA 361 16x16x1.7	Arm Cortex-R4	533	Boot Authentication	1.14	1.26	-40	85	Automotive
STA1095	Accordo 2 Dual Core 32-bit ARM Cortex-R4 / Cortex-M3 processor, with embedded SRAM, integrated DSP sound subsystem, audio ADCs and DACs, isolated CAN MCU for Car Radio and Display Audio applications	LFBGA 361 16x16x1.7	Arm Cortex-R4	450	-	1.14	1.26	-40	85	Automotive
STA1295	Automotive Infotainment Processors for Display Audio and Cluster Applications	LFBGA 19X19X1.7 529 F23X23 P0.8	Dual Arm Cortex-A7	650	Boot Authentication,HW Crypto acceleration	1.14	1.26	-40	85	Automotive

GNSS ICs

Overview

Teseo III, the latest generation of ST's GNSS ICs, offers reduced power consumption and carrier-phase tracking, allowing higher accuracy for automotive applications.

Compliant with ST's Automotive Grade qualification which includes, in addition to AEC-Q100 (Grade 3 and 2) requirements, a set of production flow methodologies targeting zero defects per million, Teseo III GNSS receiver ICs fulfill the high quality and service level requirements of the automotive market. They are the ideal solution for in-dash navigation, smart antenna, car-to-car, V2X and OEM telematics applications.

Our product offering includes standalone positioning chips (SAL) and configurable system-on-chips (SOCs), supporting multiple global navigation systems such as GPS, BeiDou, Galileo, GLONASS and QZSS. The standalone devices are offered with GNSS firmware embedded, to perform all positioning operations including tracking, acquisition, navigation and data output. The SoCs offer power processing and spare memory to enable customers and partners to easily and efficiently merge their code or specific IPs with ST's GNSS library to create a highly optimized platform.

Both solutions come with different package options and memory size, and are compatible with the for dead-reckoning and assisted navigation.

Automotive Infotainment and Telematics/GNSS ICs

	otainment and Telematics/GNSS ICS		Channels				Supply	Supply	Supply	Operating	Operating	
Part Number	General Description	Package	tracked nom	SW features	Signal tracked	Interfaces	Voltage	Voltage		Temperature (°C) min	Temperature (°C) max	Grade
STA5635A	GNSS Multifrequency Multiconstellation RF front-end	VFQFPN 5X5X1 32L P0.5	+	GNSS Raw-Measurement	BeiDou B11,BeiDou B21,BeiDou B2a,GPS,GPS L1,GPS L1C,GPS L2C,GPS L5,Galileo,Galileo E1,Galileo E5a,Galileo E5b,Glonass,Glonass L10F,Glonass L20F,L10F,Navic L5,QZSS L1	SPI	1.62	1.8	3.6	-40	105	Automotive
STA5635S	ASIL Universal GNSS RF receiver	VFQFPN 5X5X1 32L P0.5	-	GNSS Raw-Measurement	BelDou,BeiDou B1,BeiDou B2I,GPS,GPS L1,GPS L1C,GPS L2C,GPS L5,Galileo,Galileo E1,Galileo E5a,Galileo E5b,Glonass,Glonass L1OF,Glonass L2OF,Navic L5	SPI	3	3.3	3.6	-40	105	Automotive Safety
STA8089FGA	Fully Integrated GPS/Galileo/Glonass/Beidou2/QZSS Receiver with embedded RF and in-package Flash	VFQFPN 56 7x7x1.0	48	AGNSS Autonomous, AGNSS Predictive, AGNSS Real-Time, Embedded-Flash, GNSS, GNSS Dead-Reckoning, GNSS Raw-Measurement, GNSS Timing, RTCM SBAS v2.3, RTCM v3, Datalogging, Odometer, Geofencing	BeiDou, GPS, Galileo, Glonass, QZSS L1	UART, I2C, SD/MMC, USB	1.8	3.3	4.2	-40	85	Automotive
STA8089GA	Automotive Grade GPS/Galileo/Glonass/Beidou/QZSS receiver	VFQFPN 56 7x7x1.0	48	AGNSS Autonomous, AGNSS Predictive, AGNSS Real-Time, GNSS, GNSS Dead-Reckoning, GNSS Raw-Measurement, GNSS Timing, RTCM SBAS v.2.3, RTCM v3, Datalogging, Odometer, Geofencing	BeiDou, GPS, Galileo, Glonass, QZSS L1	UART, SPI, SQI, I2C, USB, CAN, GPIOs	1.8	3.3	4.2	-40	85	Automotive
STA8089GAT	Automotive Grade GPS/Galileo/Glonass/QZSS receiver	VFQFPN 56 7x7x1.0	48	AGNSS Autonomous, AGNSS Predictive, AGNSS Real-Time, GNSS, GNSS Dead-Reckoning, GNSS Raw-Measurement, GNSS Timing, RTCM SBAS v.2.3, RTCM v3, Datalogging, Odometer, Geofencing	BeiDou, GPS, Galileo, Glonass, QZSS L1	UART, SPI, SQI, I2C, USB, CAN, GPIOs	1.8	3.3	4.2	-40	105	Automotive
	Automotive GPS/Galileo/Glonass/QZSS Receiver with powerful processing capability	TFBGA 9SQ1.2 169 F13X13 P.65B.35	48	AGNSS Autonomous, AGNSS Predictive, AGNSS Real-Time, GNSS, GNSS Dead-Reckoning, GNSS Raw-Measurement, GNSS Timing, RTCM SBAS v.2.3, RTCM v3, Datalogging, Odometer, Geofencing	BeiDou, GPS, Galileo, Glonass, QZSS L1	UART, SPI, SQI, I2C, USB, CAN, GPIOs	1.8	3.3	4.2	-40	85	Automotive
STA8090GA	Automotive Grade GPS/Galileo/Glonass/Beidou/QZSS receiver	VFQFPN2 56 8x8x1.0	48	AGNSS Autonomous, AGNSS Predictive, AGNSS Real-Time, GNSS, GNSS Dead-Reckoning, GNSS Raw-Measurement, GNSS Timing, RTCM SBAS v.2.3, RTCM v3, Datalogging, Odometer, Geofencing	BeiDou, GPS, Galileo, Glonass, QZSS L1	UART, SQI, I2C, USB, CAN, GPIOs	1.6	3.3	4.2	-40	85	Automotive
STA8100GA	Teseo V Multi frequency GNSS receiver	LFBGA 8X8X1.7 81 PITCH 0.8 BALL	80	AGNSS Autonomous, AGNSS Real-Time, GNSS, GNSS Timing, GNSS Raw-Measurement, GNSS Dead-Reckoning, RTCM SBAS v2.3, RTCM v3	BeiDou, BeiDou B1, BeiDou B1, BeiDou B2a, GPS, GPS L1, GPS L1C, GPS L5, Galileo, Galileo E1, Galileo E5b, Navic L5, QZSS L1, SBAS, SBAS L1	-	1.71	3.3	3.6	-40	105	Automotive
STA8135GA	Teseo V family automotive triple-band multi-constellation GNSS precise engine receiver	TFBGA 7X11X1.2 160 F16X10 0.65P	80	AGNSS Autonomous, AGNSS Real-Time, GNSS, GNSS Timing, GNSS Raw-Measurement, GNSS Dead-Reckoning, RTCM SBAS v2.3, RTCM v3	BeiDou, BeiDou B1, BeiDou B1, BeiDou B2, BeiDou B2a, GPS, GPS L1, GPS L1C, GPS L2C, GPS L5, Gallieo, Gallieo E1, Gallieo E5a, Gallieo E5b, Glonass, Glonass, L1OF, Glonass L2OF, L10F, Navic L5, Q2SS L1, SBAS, SBAS L1	ē	1.71	3.3	3.6	-40	105	Automotive
STA9100MGA	Automotive TeseoAPP (ASIL Precise Positioning) Family Multi Band GNSS Precise Measurement Engine receiver	LFBGA 8X8X1.7 81 PITCH 0.8 BALL	80	GNSS Raw-Measurement, RTCM v3	BeiDou,BeiDou B1,BeiDou B1I,GPS,GPS L1,GPS L1C,Galileo,Galileo E1,Glonass,Glonass L1OF,QZSS L1	SPI	3	3.3	3.6	-40	85	Automotive Safety

Radio Receivers

Overview

ST is a leading provider of broadcast audio solutions for automotive infotainment systems, offering a complete portfolio of AM/FM, terrestrial and satellite digital broadcast and multi-standard receiver ICs designed to deliver world-class performance and features.

By designing with ST, you'll benefit from the most innovative technologies, a full commitment to automotive "culture", and a solid system know-how to build scalable solutions, from entry-level car radios to multi-antenna designs.

Satellite radio receivers

ST delivered the world's first mobile satellite radio chipset in 2001 for XM Satellite Radio and a few years later for Sirius Satellite Radio. After the merger of the two companies in 2007, ST continued to be the main radio IC supplier of SiriusXM, which counts now over 30 million service subscribers. ST is very proud to have contributed to the most successful story in the Digital Radio market developing seven generations of radio ICs based on state-of-art CMOS technology to deliver features of increasing complexity with continuous improvement in power performance.

All satellite receiver ICs are custom devices co-designed by SiriusXM and ST; ST can provide product information and deliver the devices only to SiriusXM authorized partners. For any questions about satellite radio solutions, please contact.

ST's terrestrial radio tuners cover all standards, from analog (AM/FM radio) to digital (HD Radio™, DAB™ and DRM™). Our multi-band audio receivers reduce system components count and cost, while ensuring best-in-class radio signal reception.

Automotive Infotainment and Telematics / Radio Receivers/Terrestrial Radio Receivers

Part Number	General Description	Package	Receiver Type	RF Front-End	Radio Broadcast Reception	Digital Baseband Interface	Operating Temperature (°C) min	Operating Ambient Temperature max
STA660	DAB/DAB+/DMB-A multi-standard digital radio decoder	TFBGA 289 15x15x1.2	Baseband Radio Receiver	-	DAB 1.5	DAB	-40	-
STA680	Automotive HD Radio? baseband receiver	LFBGA 168 12x12x1.4	Baseband Radio Receiver	-	HD 1.5	HD Radio	-40	-
STA680M	Automotive HD Radio? baseband receiver - MRC enabled	LFBGA 168 12x12x1.4	Baseband Radio Receiver	-	HD MRC	HD Radio	-40	-
STA709	AM/FM/HD-Radio™/DAB automotive digital output tuner	QFN 9X9X1.0 DIMPLE PITCH 0.5	Tuner Front-End	AM,DAB,FM	=	AM,DAB,FM,HD Radio	-40	=
STA710	AM/FM/HD-Radio™/DAB automotive digital output tuner	QFN 9X9X1.0 DIMPLE PITCH 0.5	Tuner Front-End	2xAM,2xDAB,2xFM	-	AM,DAB,FM,HD Radio	-40	-
TDA7705	Highly integrated tuner for AM/FM car radio	LQFP 64 10x10x1.4 mm	All-In-One Radio Receiver	AM,FM	AM,FM	-	-40	-
TDA7706	Highly integrated tuner for AM/FM car-radio	LQFP 64 10x10x1.4 mm	All-In-One Radio Receiver	AM,FM	AM,FM	HD Radio	-40	-
TDA7707	multi-standard IC tuner	QFN 9X9X1.0 DIMPLE PITCH 0.5	All-In-One Radio Receiver	2xAM,2xDAB,2xFM	AM,FM,FM PD	DAB,HD Radio	-40	85
TDA7708	AM/FM/HD-Radio? submicron technology automotive receiver	QFN 9X9X1.0 DIMPLE PITCH 0.5	All-In-One Radio Receiver	AM,FM	AM,FM	HD Radio	-40	-
TDA7708S	AM/FM/HD-Radio? submicron technology automotive receiver	VFQFPN2 52 8x8x1.0	All-In-One Radio Receiver	AM,FM	AM,FM	HD Radio	-40	85
TDA7786	ELITE automotive tuner for AM/FM car-radio	LQFP 64 10x10x1.4 mm	All-In-One Radio Receiver	AM,FM	AM,FM	HD Radio	-40	85
TDA7786M	ELITE automotive tuners for AM/FM car-radio	LQFP 64 10x10x1.4 mm	All-In-One Radio Receiver	AM,FM	AM,FM	HD Radio	-40	85

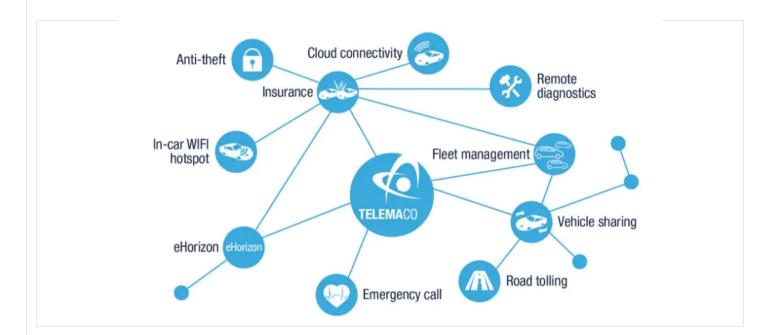
Telematics and Connectivity Processors

Overview

ST develops and manufactures a broad range of components for automotive telematics systems, providing the ability to connect the car to a permanent communication infrastructure via the mobile phone network. Examples of telematics applications include popular insurance boxes, aftermarket and OEM systems for emergency calls and remote assistance to drivers as well as accessories for in-vehicle Wi-Fi hotspots and mobile device connectivity for head-up displays.

ST's product range covers a wide portion of typical telematics architectures from GNSS positioning devices for vehicle location to sensors for vehicle acceleration monitoring and crash detection to Bluetooth® Smart connectivity for wireless in-vehicle applications.

Leveraging our extensive expertise of hardware and software solutions for automotive infotainment and telematics applications, ST is now focusing on a new family of application-specific microprocessors which, with their scalable feature set and powerful processing capabilities, make the ideal choice for a cost-effective implementation of large scale of modem-independent telematics solutions from low-end eCall boxes – with the powerful but cost-effective Telemaco2 – to high-end smart antenna systems with the cyber-secure and functionally safe .



Automotive Infotainment and Telematics/Telematics and Connectivity Processors

Part Number	General Description	Package	Core	CPU Clock Frequency (MHz) max	Security	Voltage	Supply Voltage (V) max	Operating Temperature (°C) min	Operating Temperature (°C) max	Grade
STA1385	Telemaco3P automotive family of telematics and connectivity microprocessor	LFBGA 361 16x16x1.7	Dual Arm Cortex-A7	600	Boot Authentication,Boot Authentication (Locked),HW Crypto acceleration,Jtag Fuse,MPU	1.14	1.21	-40	105	Automotive

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