

# High Performance Analog IC and Sensor Portfolio

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November 2012



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**We provide innovative analog solutions for the most challenging applications.**

**We help people live a technologically enhanced life that feels easy and natural.**

ams analog and sensor solutions help to seamlessly link the real world which is analog with the digital one, creating technology that is intuitive, convenient and unobtrusive.

# Audio

## Active Noise Cancellation

Part No.	Function	Topology	Output Type	Max. Output Power	SNR, THD	ANC Performance	Supply Voltage	Package	
				BTL, 1.8V, 32 Ohm	SE, 34 mW, 32 Ohm				V
AS3400	Accessories	Receive Path feedforward/Feedback	Mono BTL	125mW	>100dB, <0.1%	>20dB	1.0 to 1.8	QFN-24 (4x4)	
AS3410	Accessories	Receive Path Feedforward	Stereo SE/ Mono BTL	125mW	>100dB, <0.1%	>25dB	1.0 to 1.8	QFN-24 (4x4)	
AS3420	BT Accessories	Receive Path feedforward/Feedback	Mono BTL	125mW	>100dB, <0.1%	>20dB	1.0 to 1.8	QFN-20 (4x4)	
AS3430	Accessories	Receive Path Feedback	Stereo SE/ Mono BTL	125mW	>100dB, <0.1%	>20dB	1.0 to 1.8	QFN-32 (5x5)	
AS3501	Embedded	Receive Path Feedforward	Stereo SE/ Mono BTL	125mW	>100dB, <0.1%	>25dB	1.0 to 1.8	QFN-24 (4x4)	
AS3502	Embedded	Receive Path Feedback	Stereo SE/ Mono BTL	125mW	>100dB, <0.1%	>20dB	1.0 to 1.8	QFN-32 (5x5)	
<b>NEW &gt;</b>	AS3421	BT Accessories	Receive Path Feedforward	Stereo SE	SE: 35mW	>100dB, <0.1%	>25dB	1.0 to 1.8	QFN-24 (4x4)
<b>NEW &gt;</b>	AS3422	BT Accessories	Receive Path Feedback	Stereo SE	SE: 35mW	>100dB, <0.1%	>20dB	1.0 to 1.8	QFN-32 (5x5)

## Audio Front-Ends

Part No.	Power Management	Main Audio Features	Audio Codec SNR	Speaker Amplifier	Main Interfaces and Control	USB Charger with Temp. Supervision	Boot ROM for Start-up Sequences	RTC	Package
									(mm)
AS3510	DC-DC StepUp: 1x150mA @ 3.6V DC-DC StepDown: - LDO: 2x50mA, 1x200mA Charge: - Current Sink: -	Headphone Amp: 1x Line Out: - Line In: - Microphone In: 1x Audio Mix: yes	DAC: 91dB ADC: 83dB	•	Gen. Purpose ADC: - I <sup>2</sup> C & I <sup>2</sup> S: yes SPDIF: - RES & WDT: RES only DRM Enabled (UID): -	-	-	-	BGA-49 (7x7)
AS3514	DC-DC StepUp: 1x150mA @ 3.6V DC-DC StepDown: - LDO: 2x50mA, 1x200mA, 2x MIC Charge: - Current Sink: -	Headphone Amp: 1x Line Out: 1x Line In: 2x Microphone In: 2x Audio Mix: yes	DAC: 94dB ADC: 83dB	•	Gen. Purpose ADC: 10bit I <sup>2</sup> C & I <sup>2</sup> S: yes SPDIF: - RES & WDT: yes DRM Enabled (UID): 64bit	•	25	•	BGA-64 (7x7)
AS3515	DC-DC StepUp: 1x60mA @ 12V DC-DC StepDown: - LDO: 5x200mA, 1x2mA, 2x MIC Charge Pump: 1x for Core Current Sink: 1x40mA (progr.)	Headphone Amp: 1x Line Out: 1x Line In: 2x Microphone In: 2x Audio Mix: yes	DAC: 94dB ADC: 83dB	•	Gen. Purpose ADC: 10bit I <sup>2</sup> C & I <sup>2</sup> S: yes SPDIF: - RES & WDT: yes DRM Enabled (UID): 64bit	•	25	•	BGA-64 (7x7)
AS3517	DC-DC StepUp: 1x60mA @ 12V, 1x500mA (USB) DC-DC StepDown: 1x500mA, 2x250mA LDO: 4x200mA, 1x2mA, 2x MIC Charge Pump: 1x10mA (for USB OTG) Current Sink: 1x40mA (progr., log. Dimming)	Headphone Amp: 1x Line Out: 2x Line In: 2x Microphone In: 2x Audio Mix: yes	DAC: 96dB ADC: 90dB	-	Gen. Purpose ADC: 10bit I <sup>2</sup> C & I <sup>2</sup> S: yes SPDIF: yes RES & WDT: yes DRM Enabled (UID): 64bit	•	25	•	BGA-81 (9x9)
AS3518	DC-DC StepUp: 1x60mA @ 12V DC-DC StepDown: 2x250mA LDO: 4x200mA, 1x MIC Charge Pump: - Current Sink: 1x36mA (progr., log. Dimming)	Headphone Amp: 1x Line Out: 1x Line In: 3x Microphone In: 1x Audio Mix: yes	DAC: 96dB ADC: 96dB	-	Gen. Purpose ADC: 10bit I <sup>2</sup> C & I <sup>2</sup> S: yes SPDIF: yes RES & WDT: yes DRM Enabled (UID): 64bit	+ Current Limitation	5	•	BGA-64 (7x7)
AS3542	DC-DC StepUp: 1x60mA @ 12V DC-DC StepDown: 2x250mA with DVM LDO: 3x200mA, 1x50mA, 1x MIC Charge Pump: - Current Sink: 1x36mA (progr., log. Dimming)	Headphone Amp: 1x Line In/Out: 1x* Microphone In: 1x Audio Mix: yes	DAC: 96dB ADC: 85dB	-	Gen. Purpose ADC: 10bit I <sup>2</sup> C & I <sup>2</sup> S: yes SPDIF: - RES & WDT: yes DRM Enabled (UID): 64bit	+ Current Limitation + Battery Switch	5 (5 voltage combinations each)	-	MLF-56 (7x7)
AS3543	DC-DC StepUp: 1x60mA @ 12V DC-DC StepDown: 2x250mA with DVM LDO: 3x100mA, 1x50mA, 1x MIC Charge Pump: - Current Sink: 2x36mA (progr., log. Dimming)	Headphone Amp: 1x Line Out: 1x* Line In: 2x Microphone In: 1x Audio Mix: yes	DAC: 102/96dB ADC: 85dB	-	Gen. Purpose ADC: 10bit I <sup>2</sup> C & I <sup>2</sup> S: yes SPDIF: - RES & WDT: yes DRM Enabled (UID): 64bit	+ Current Limitation + Battery Switch	5 (25 voltage combinations each)	•	BGA-64 (6x6)

\*) with ground noise cancellation

## Headphone Amplifiers

Part No.	Topology	Power	PSRR	Output Type	Shutdown	Supply Current	Supply Voltage	Package
		mW	dB			mA	V	(mm)
AS3560	Class G	30	>90	Single ended stereo	via I <sup>2</sup> C	0.9	2.3 to 5.5	WL-CSP16
AS3561	Class H	30	>90	Single ended stereo	via I <sup>2</sup> C	0.9	2.3 to 5.5	WL-CSP16

## Speaker Amplifiers

Part No.	Gain	Power	PSRR	Output Type	Shutdown	Supply Current	Supply Voltage	Package
	dB	W	dB			mA	V	(mm)
AS1701	Adjustable	1.6	65	Bridged	Active High	6.8	2.7 to 5.5	MSOP-8
AS1702	Adjustable	1.8	79	Differential	Active High/Low	8	2.7 to 5.5	MSOP-10, DFN-10 (3x3)
AS1703	0	1.8	79	Differential	Active High/Low	8	2.7 to 5.5	MSOP-10, DFN-10 (3x3)
AS1704	3	1.8	79	Differential	Active High/Low	8	2.7 to 5.5	MSOP-10, DFN-10 (3x3)
AS1705	6	1.8	79	Differential	Active High/Low	8	2.7 to 5.5	MSOP-10, DFN-10 (3x3)
AS1706	Adjustable	1.6	65	Bridged	Active Low	6.8	2.7 to 5.5	MSOP-8

## Operational Amplifiers

Part No.	Amplifiers	Slew Rate	Gain Bandwidth	PSRR	CMRR	Shutdown	Supply Current	Supply Voltage	Package
	#	V/ $\mu$ s	MHz	dB	dB		mA	V	(mm)
AS1710A	1	10	10	-85	-70	•	1.6	2.7 to 5.5	SC70-6
AS1710B	1	10	10	-85	-70	-	1.6	2.7 to 5.5	SC70-5
AS1712A	4	10	10	-85	-70	•	6.4	2.7 to 5.5	TQFN-16 (3x3)
AS1713	1	10	10	-70	-60	•	1.6	2.7 to 5.5	MLPD-8 (2x2)

## Phones (Feature/Basic)

Part No.	Supply Voltage	Operating Range	Temperature Range	Last Number & Memory Dialing	Tone Ringer	Handsfree Function	Package
	V	mA	°C				
AS2522B	3.0 to 5.0	15 to 150	-25 to 70	0	•	•	TQFP-32, Die on Foil
AS2523/24	3.0 to 5.0	15 to 150	-25 to 70	0	-	•	SOIC-28, Die on Foil
AS2525	3.0 to 5.0	15 to 100	-25 to 70	29	•	•	TQFP-44, Die on Foil
AS2533	3.8 to 5.0	13 to 100	-25 to 70	15	•	-	SOIC-28, Die on Foil
AS2534	3.8 to 5.0	13 to 100	-25 to 70	1	•	-	SOIC-28, Die on Foil
AS2535	3.8 to 5.0	13 to 100	-25 to 70	12	•	-	SOIC-28, Die on Foil
AS2536	3.8 to 5.0	13 to 100	-25 to 70	15	•	-	SOIC-28, Die on Foil
AS2540	3.6 to 5.0	15 to 100	-15 to 60	0	•	-	SOIC-28, Die on Foil

# Data Converters

## Analog/Digital Converters

Part No.	Channels	Resolution	Sampling Rate	Fully Differential	Internal Reference	Supply Current	Supply Voltage	Package
	#	bit	ksps			mA @ max speed	V	(mm)
AS1520	8	10	400	•	•	2.8	4.5 to 5.5	TSSOP-20
AS1521	8	10	300	•	•	2.2	2.7 to 3.6	TSSOP-20
AS1522	4	10	400	•	•	2.8	4.5 to 5.5	TSSOP-16
AS1523	4	10	300	•	•	2.2	2.7 to 3.6	TSSOP-16
AS1524	1	12	150	•	-	0.35	2.7 to 5.25	TDFN-8 (3x3)
AS1525	2	12	150	-	-	0.35	2.7 to 5.25	TDFN-8 (3x3)
AS1526	1	10	73	-	•	1.4	2.7 to 5.25	SOIC-150-8
AS1527	1	10	73	-	-	1.0	2.7 to 5.25	SOIC-150-8
AS1528	1	10	150	•	-	0.35	2.7 to 5.25	TDFN-8 (3x3)
AS1529	2	10	150	-	-	0.35	2.7 to 5.25	TDFN-8 (3x3)
AS1530	8	12	400	•	•	2.8	4.5 to 5.5	TSSOP-20
AS1531	8	12	300	•	•	2.2	2.7 to 3.6	TSSOP-20
AS1532	4	12	400	•	•	2.8	4.5 to 5.5	TSSOP-16
AS1533	4	12	300	•	•	2.2	2.7 to 3.6	TSSOP-16
AS1535	8	12	400	•	•	2.5	3.0 to 5.5	QFN-32 (5x5)
AS1536	1	12	73	-	•	1.4	2.7 to 5.25	SOIC-150-8
AS1537	1	12	73	-	-	1.4	2.7 to 5.25	SOIC-150-8
AS1538	8	12	50	•	•	1.1	2.75 to 5.25	TSSOP-16
AS1539	8	10	50	•	•	1.1	2.75 to 5.25	TSSOP-16
AS1540	4	12	50	•	•	1.1	2.75 to 5.25	TQFN-16 (4x4)
AS1541	4	10	50	•	•	1.1	2.75 to 5.25	TQFN-16 (4x4)
AS1542	16	12	1000	•	-	2.4	2.75 to 5.25	TSSOP-28
AS1543	8	12	1000	•	-	5.2	2.75 to 5.25	TQFN-20 (4x4)
AS1544	4	12	1000	•	-	5.2	2.75 to 5.25	TQFN-20 (4x4)
AS1545	2x6	12	2x1000	•	•	5.2	2.7 to 5.25	TQFN-32 (5x5)

## Analog Switches

Part No.	Lines	Type	RON	RON flatness	RON matching	On/Off time	Supply Voltage	Package
	#		Ohm	Ohm	Ohm	ns	V	(mm)
AS1741	2	SPST NO	0.8	0.18	0.08	22/14	1.6 to 3.6	MSOP-8 / SOT23-8
AS1742	2	SPST NC	0.8	0.18	0.08	22/14	1.6 to 3.6	MSOP-8 / SOT23-8
AS1743	2	SPST NO/NC	0.8	0.18	0.08	22/14	1.6 to 3.6	MSOP-8 / SOT23-8
AS1744	2	SPDT NO/NC	4	1	0.2	17/6	1.8 to 5.5	MSOP-10
AS1745	2	SPDT NC/NO	4	1	0.2	17/6	1.8 to 5.5	MSOP-10
AS1746	2	SPDT NC/NO	0.5/0.6	0.15	0.06	50/30	1.8 to 5.5	TDFN-10 (3x3) / WL-CSP-10
AS1747	2	SPDT	0.45/0.55	0.4	0.15	400/200	1.8 to 5.5	TDFN-10 (3x3)
AS1748	2	SPDT, Comparator	0.85	0.4	0.15	400/200	1.8 to 5.5	TQFN-16 (3x3)
AS1749	2	SPDT, Shunt	0.85	0.4	0.15	400/200	1.8 to 5.5	TDFN-10 (3x3)
AS1750	2	SPDT, Shunt + Comp	0.85	0.4	0.15	400/200	1.8 to 5.5	TQFN-16 (3x3)
AS1751	4	SPST NO	0.9	0.1	0.12	22/14	1.5 to 3.6	TSSOP-14 / QFN-16 (3x3)
AS1752	4	SPST NC	0.9	0.1	0.12	22/14	1.5 to 3.6	TSSOP-14 / QFN-16 (3x3)
AS1753	4	SPST NO/NC	0.9	0.1	0.12	22/14	1.5 to 3.6	TSSOP-14 / QFN-16 (3x3)

## D/A Converters

Part No.	Channels	Resolution	INL	DNL	Functionality	Supply Voltage	Package
	#	bit	LSB	LSB		V	
AS1504	8	8	±0.75	±0.5	Mid-Scale Reset Pin	2.7 to 5.5	SOIC-150-16
AS1505	8	8	±0.75	±0.5	Zero-Scale Setting	2.7 to 5.5	SOIC-150-16

## Data Acquisition Front-Ends

Part No.	Description	Channels	Resolution	Sampling Rate	Fully Differential	Internal Reference	Supply Current	Supply Current	Supply Voltage	Package
		#	bit	ksps			mA @ max speed	mA	V	
AS8500	Data Acquisition IC, Single ADC	4 mux	16	8	•	•	4	3	4.9 to 5.1	SOIC-300-16
AS8501	Calibrated Data Acquisition IC, Single ADC	4 mux	16	8	•	•	4	3	4.9 to 5.1	SOIC-300-16
AS8510	Data Acquisition IC, Dual ADC	1 + 3 mux	16	4	•	•	5	4	3.3	SSOP-20

## Digital Potentiometers

Part No.	Features	Channels	Resistance	Resolution	INL	DNL	Supply Voltage	Supply Current	Package
		#	kOhm	bit	LSB	LSB	V	µA	(mm)
AS1500	Volatile	1	10	8	±2	±1	2.7 to 5.5	1	SOIC-8
AS1501	Volatile	1	20	8	±2	±1	2.7 to 5.5	1	SOIC-8
AS1502	Volatile	1	50	8	±4	±1	2.7 to 5.5	1	SOIC-8
AS1503	Volatile	1	100	8	±4	±1	2.7 to 5.5	1	SOIC-8
AS1506-10	Non-Volatile	1	10	8	0.5	0.5	2.7 to 5.5	0.2	TDFN-8 (3x3)
AS1506-50	Non-Volatile	1	50	8	0.5	0.5	2.7 to 5.5	0.2	TDFN-8 (3x3)
AS1506-100	Non-Volatile	1	100	8	0.5	0.5	2.7 to 5.5	0.2	TDFN-8 (3x3)
AS1507-10	Non-Volatile	2	10	8	0.5	0.5	2.7 to 5.5	0.2	TQFN-16 (3x3)
AS1507-50	Non-Volatile	2	50	8	0.5	0.5	2.7 to 5.5	0.2	TQFN-16 (3x3)
AS1507-100	Non-Volatile	2	100	8	0.5	0.5	2.7 to 5.5	0.2	TQFN-16 (3x3)

# In everything we do we aim to make technology a more natural experience to the user - however challenging the application.

## For example:

**Automotive Sensors:** ams' intelligent battery management devices help to balance the power needs of vehicle systems so that the battery doesn't break down on a cold night or the air-conditioning doesn't stop working on a hot day.

**Medical Sensors & Sensor Interfaces:** In medical imaging systems like computer tomography scanners, ams ASICs enable doctors to generate extremely high-resolution images of the human body with dramatically lower doses of x-ray radiation.





## Capacitive Sensors

Part No.	Description	Features	Output	Supply V	Temp. Range °C	Package	Remark
AS1716	Capacitive Sensor Analog Front End	The device provides differential to single ended conversion, programmable gain stage and a 2-pole low pass Multiple Feedback Filter	Analog	4.5 to 5.5	-40 to +125	SOIC-8	Analog front end specifically designed for unbiased Capacitive Sensors, as for instance Knock Sensors

## FlexRay Transceivers

NEW ▶

Part No.	Network	Description	Supply Voltage V	Temperature Range °C	Package (mm)
AS8221	FlexRay™	FlexRay™ Standard Transceiver	VBAT 5.5 - 50	-40 to +125	SSOP-20
AS8222	FlexRay™	FlexRay™ Enhanced Standard Transceiver	VBAT 5.5 - 40	-40 to +150	SSOP-20
AS8223	FlexRay™	FlexRay™ Active Star Device	VBAT 5.5 - 40	-40 to +125	MLF-44 (9x9)
AS8224	FlexRay™	FlexRay™ Active Star Device with Bit-Reshaper	VBAT 5.5 - 40	-40 to +125	MLF-44 (9x9)

## Companion ICs/ Power Management

Part No.	Description	Typical Standby Quiescent Current µA	Operating Supply Range V	Ambient Temperature Range °C	Package (mm)
AS8525	High Side battery sensor companion IC with LIN	50	4.9 to 18	-40 to +125	punched QFN-32 (5x5)
AS8530	8 PIN LIN Companion IC with microcontroller interface	37	6 to 18	-40 to +125	epSOIC-8
AS8650B	Smart Power Management Device with High Speed CAN Interface	65	6 to 18	-40 to +105 (at maximum load)	QFN-36 (6x6)

## Low Voltage Differential Signaling

Part No.	Function	Type	Lines #	Data Rate Mbps	Terminated Ohm	Failsafe Circuit	Supply Current mA	Supply Voltage V	Package
AS1150	-	Receiver	4	500	-	•	5	3.0 to 3.6	TSSOP-16
AS1151	-	Receiver	4	500	107	•	5	3.0 to 3.6	TSSOP-16
AS1152	-	Driver	4	500	-	-	4	3.0 to 3.6	TSSOP-16
AS1153	-	Receiver	1	260	-	•	2.5	3.0 to 3.6	SOIC-8
AS1154	-	Driver	2	800	-	-	2	3.0 to 3.6	SOIC-8
AS1155	-	Receiver	2	260	-	•	4.5	3.0 to 3.6	SOIC-8
AS1156	-	Driver	1	800	-	-	2	3.0 to 3.6	SOIC-8
AS1157	-	Receiver	1	260	107	•	2.5	3.0 to 3.6	SOIC-8
AS1158	-	Receiver	2	260	107	•	4.5	3.0 to 3.6	SOIC-8
AS1160	20MHz - 66MHz, 10-Bit Serializer	Serializer	10	660	-	-	90	3.0 to 3.6	CTBGA 49-bumps
AS1161	20MHz - 66MHz, 10-Bit Deserializer	Deserializer	10	660	-	-	130	3.0 to 3.6	CTBGA 49-bumps

## Solenoid/Relay Drivers

Part No.	Number of Drivers	Internal Supply Voltage V	Supply Current mA	Internal Osc Frequency KHz	Duty Cycle %	Energising current mA	Adjustable Hold Current
AS1720	1	3.3	2	30	10 to 90	10 to 100	•

# Lighting Management

## Camera Flash LED Drivers

Part No.	Topology	DC-DC Freq. MHz	Performance		LED Channels				Interfaces		Safety Features		Packages (mm)
			I <sub>led max</sub>	V <sub>out max</sub>	Curr. Sinks	Curr. Source	Flash LEDs	Indicator LED	I <sup>2</sup> C	2 pin Enable	TimeOut	TXMask	
AS3642	Inductive	4	500mA	5.5V	1	High Side	1	Flash LED	•	-	•	-	WL-CSP6 (1.5x1.1, pitch 0.5)
AS3643	Inductive	4	1300mA	5.5V	2	Low Side	1	Flash LED	•	-	•	•	WL-CSP-13 (2.25x1.5, pitch 0.5)
AS3644	Inductive	4	320mA	5.5V	1	High Side	1	Flash LED	•	-	•	-	WL-CSP6 (1.5x1.1, pitch 0.5)
AS3645A	Inductive	2	800/500mA (2/1 LED)	10V	1	High Side	1 or 2	1	•	•	•	•	WL-CSP-12 (1.5x2, pitch 0.5)
AS3645B	Inductive	2	1000/720mA (2/1 LED)	10V	1	High Side	1 or 2	1	•	•	•	•	WL-CSP-12 (1.5x2, pitch 0.5)
AS3647	Inductive	4	1600mA	5.5V	2	Low Side	1	Flash LED	•	-	•	•	WL-CSP-13 (2.25x1.5, pitch 0.5)
AS3648	Inductive	4	2000mA	5.5V	2	Low Side	1 or 2	Flash LED	•	-	•	•	WL-CSP-13 (2.25x1.5, pitch 0.5)
AS3682	Capacitive	-	480mA	5.5V	6	Low Side	1 to 6	•	•	•	•	-	QFN-24 (4x4, pitch 0.5)
AS3683	Capacitive	-	1000mA	5.5V	6	Low Side	1 to 6	•	•	•	•	-	QFN-24 (4x4, pitch 0.5)
AS3685A	Capacitive	-	1000mA	5.5V	1	Low Side	1	Flash LED	-	•	•	•	CSP-12 (1.5x2, pitch 0.5), DFN10 (3x3)
AS3685B	Capacitive	-	1000mA	5.5V	1	Low Side	1	Flash LED	-	•	•	•	DFN-10 (3x3)
AS3685C	Capacitive	-	1000mA	5.5V	1	Low Side	1	Flash LED	•	-	•	•	WL-CSP-12 (1.5x2, pitch 0.5)

## Camera Flash XENON Drivers

Part No.	Topology	Supply Voltage	V <sub>Out max</sub>	IGBT Driver	IGBT Type	Interface	Safety Features	Package (mm)
		V	V					
AS3635	Flyback	2.5-5.5	330 (in circuit trimmable)	•	2.5 and 4V	charge, done, flash	overtemperature, overcurrent	WL-CSP-9 (1.5x1.5, pitch 0.5)
AS3636	Flyback	2.5 - 5.5	330 (in circuit trimmable)	included, trimmable	2.5V and 4V	I <sup>2</sup> C, strobe, torch	one time breakable fuse in supply path, system level ESD protection	WL-CSP-16 (2.0x2.15, pitch 0.5)

## Small Panel LED Backlight Drivers

Part No.	DC-DC				Interface		Part No. Package (mm)
	I/source	# of Current Sources	Freq.	V <sub>out max</sub>	PWM	Dimming	
AS3490	25mA	3	2MHz	10V	1	CH1-3	WL-CSP12 (1.7x1.4, pitch 0.5)
AS3492	25mA	5	2MHz	10V	2	CH1-3,CH2-4	WL-CSP12 (1.7x1.4, pitch 0.5)

## Large LCD Panel Backlighting

Part No.	Outputs	LED Current per Output	Features	Error Detection	Read-back	Current Accuracy	Supply Voltage	Package
	#	mA				%	V	
AS3691	4	400	Slew rate control	-	-	0.5	From Main Supply	QFN-24 or ePTSSOP-24
AS3693A	16	70	Power supply control	•	-	0.5	From Main Supply	epTQFP-64, QFN-48
AS3693B	16	depends on external FET	Power supply control	•	-	0.5	From Main Supply	epTQFP-64, QFN-64
AS3693B1	16	depends on external FET	Power supply control	•	-	0.5	From Main Supply	MLF-64
AS3693C	9	depends on external FET	Power supply control, PWM input	•	-	0.5	From Main Supply	LQFP-44
AS3693E	16	depends on external FET	Power supply control, PWM input	•	-	0.5	From Main Supply	epTQFP-64, QFN-64
AS3694	12	70	3 DC-DC controllers, slew rate control	•	-	0.5	From Main Supply	epTQFP-64
AS3695A	16	120	Power supply control	•	-	0.2	From Main Supply	QFN-48
AS3695C	16	depends on external FET	Power supply control	•	-	0.2	From Main Supply	LQFP-64, QFN-64
AS3696	4	depends on external FET	3D support	•	-	1	From Main Supply	QFN-32, TQFP-32

## Drivers for Smart Notification Light

Part No.	Performance		User Memory	Performance Features						Package
	# of Current Sinks	Charge Pump	kbit	RGB Pattern	Dimming	Ext. PWM	Ext. Trigger	Audio-In	LED Test	(mm)
AS3661	9	150mA	1.5	•	log & lin	-	•	-	•	WL-CSP25 (2.29x2.29, pitch 0.4)
AS3665	9	150mA	1.5	•	log & lin	-	•	•	•	WL-CSP25 (2.61x2.67, pitch 0.5)
AS3668	4	150mA	-	•	log & lin	•	•	•	•	WL-CSP12 (1.25x1.68, pitch 0.4)

## LED Driver ICs

Part No.	Outputs	LED Current per Output	Features	Internal PWM	Error Detection	Keys	LED-to-LED Matching	Supply Voltage	Package
	#	mA		bit/function			%	Logic / LED max (V)	(mm)
<b>Dot Matrix Drivers</b>									
AS1100	64	5	Multiplexed	4/global	-	-	3	4 to 5.5 / 5.5	PDIP-24 / SOIC-24
AS1105	32	10	Multiplexed	4/global	-	-	3	4 to 5.5 / 5.5	SOIC-20
AS1106	64	5	Multiplexed	4/global	-	-	3	2.7 to 5.5 / 5.5	PDIP-24 / SOIC-24
AS1107	64	5	Multiplexed	4/global	-	-	3	2.7 to 5.5 / 5.5	PDIP-24 / SOIC-24
AS1108	32	10	Multiplexed	4/global	-	-	3	2.7 to 5.5 / 5.5	PDIP-20 / SOIC-20
AS1115	64	5	Multiplexed, I <sup>2</sup> C interface	4/string	•	16	3	2.7 to 5.5 / 5.5	QSOP-24 / TQFN-24 (4x4)
AS1116	64	5.5	Multiplexed	4/string	•	-	3	2.7 to 5.5 / 5.5	QSOP-24 / TQFN-24 (4x4)
AS1117	64	5	1.8V compatible, multiplexed, I <sup>2</sup> C interface	4/string	•	8	3	2.7 to 5.5 / 5.5	TQFN-24 (4x4)
AS1118	64	5.5	1.8V compatible, multiplexed	4/string	•	-	3	2.7 to 5.5 / 5.5	TQFN-24 (4x4)
AS1119	144	3.3	Crossplexed, 320mA CP, RAM, 8-bit analog current setting	8/LED	•	-	2	2.7 to 5.5 / 5.5	WL-CSP-36 (3x3)
AS1130	132	2.6	Crossplexed, 36 frame RAM, error handling, 8-bit analog current setting (global & per string)	8/LED	•	-	2	2.7 to 5.5 / 5.5	WL-CSP-25 (2.5x2.2) SSOP-28
<b>Directly Driven LED Drivers</b>									
AS1101	2	80	-	-	-	-	3	2.2 to 3.6 / 3.6	SC70-6
AS1102	3	40	-	-	-	-	3	2.2 to 3.6 / 3.6	SC70-6
AS1103	4	40	-	-	-	-	3	2.2 to 3.6 / 3.6	SC70-6
AS1104	4	40	-	-	-	-	3	2.2 to 3.6 / 3.6	MSOP-8
AS1109	8	100	-	-	•	-	2	3.0 to 5.5 / 15	SOIC150-16, SSOP150-16, TQFN-16 (4x4)
AS1110	16	100	-	-	•	-	3	3.0 to 5.5 / 15	SSOP-24 / TQFN-28 (5x5)
AS1112	16	100	6-bit DOT correction	12/LED	•	-	4.5	3.0 to 5.5 / 15	TQFN-32 (5x5)
AS1113	16	50	-	-	•	-	3	3.0 to 5.5 / 15	SSOP-24 / TQFN-28 (5x5)
AS1121	16	40	6-bit DOT correction	12/LED	•	-	4.5	3.1 to 3.6 / 30	TQFN-32 (5x5)
AS1122	12	40	6-bit DOT correction, internal GSC clock; slim interface	12/LED	•	-	3	2.7 to 3.6 / 30	QFN-24 (4x4)
AS1123	16	40	Low V <sub>ds</sub> ; optimized for single LED per output	-	•	-	3	3 to 5.5 / 5.5	QSOP-24 TQFN-24 (4x4)
AS3665	9	25	Audio Sync, Command Based Programmable Pattern Generator, CP, Automatic Color Correction	12/LED	-	-	2.5	2.5 to 5.5 / 5.5	WL-CSP-25 (2.6x2.6)
AS3691	4	400	Slew rate control	-	-	-	0.5	From Main Supply	QFN-24 or ePTSSOP-24

## Lighting Management Units

Part No.	# of Current Sinks		Max Current (mA)		Max Vled	Features							Flash		Package
	HV	LV	CP	DC-DC	(V)	LDOs (#)	Auto ALS	DLS	RGB Pattern	Dimming	Audio-In	LED Test	Support	max I (mA)	(mm)
AS3676	3	10	300	controller*	controller*	1	•	•	•	•	•	•	•	300	WL-CSP-30 (3x2.5, pitch 0.5)
AS3677	3	3	50	50	25	1	•	2x	•	•	-	•	-	-	WL-CSP25 (2.3x2.3, pitch 0.4)
AS3687	3	4	150	controller*	controller*	-	-	-	•	•	-	•	-	-	WL-CSP-20 (2x2.5, pitch 0.5)
AS3687XM	3	3	150	controller*	controller*	-	-	-	•	•	•	•	-	-	WL-CSP-20 (2x2.5, pitch 0.5)
AS3688	2	7	900	controller*	controller*	2	-	-	•	•	-	•	-	900	QFN-32 (5x5, pitch 0.5)
AS3689	3	12	400	controller*	controller*	1	-	-	•	•	-	•	•	150	WL-CSP-36 (3x3, pitch 0.5)

\*) unlimited - depends on external used devices

# Magnetic Position Sensors

## Magnetic Rotary Position Sensors

Part No.	Description	Resolution	Interfaces	Output	Max Speed rpm	Overvoltage Protection	Redundant	Supply Voltage V	Temp. Range °C	Package	AUT Qualified
AS5030	8-bit Rotary Position Sensor with Digital Angle (Interface) and PWM output	8-bit	SSI	Digital Angle (Interface) / PWM	30000	-	-	5.0	-40 +125	TSSOP-16	-
AS5035	8-bit Rotary Position Sensor with ABI output	8-bit	-	ABI	30000	-	-	3.3 or 5.0	-40 +125	SSOP-16	-
AS5040	10-bit Rotary Position Sensor with Digital Angle (Interface), ABI, UVW and PWM output	10-bit	SSI	Digital Angle (Interface) / ABI / UVW / PWM	30000	-	-	3.3 or 5.0	-40 +125	SSOP-16	-
AS5043	10-bit Rotary Position Sensor with Digital Angle (Interface) or Linear analog output	10-bit	SSI	Digital Angle (Interface) / Linear analog	30000	-	-	3.3 or 5.0	-40 +125	SSOP-16	-
AS5045	12-bit Rotary Position Sensor with Digital Angle (Interface) and ABI output	12-bit	SSI	Digital Angle (Interface) / PWM	-	-	-	3.3 or 5.0	-40 +125	SSOP-16	-
<b>NEW ▶</b> AS5048A	14-bit Rotary Position Sensor with Digital Angle (Interface) and ABI output	14-bit	SPI	Digital Angle (Interface) / PWM	-	-	-	3.3 or 5.0	-40 +150	TSSOP-14	-
<b>NEW ▶</b> AS5048B	14-bit Rotary Position Sensor with Digital Angle (Interface) and ABI output	14-bit	PC	Digital Angle (Interface) / PWM	-	-	-	3.3 or 5.0	-40 +150	TSSOP-14	-
AS5050	10-bit Rotary Position Sensor with Digital Angle (Interface) output	10-bit	SPI	Digital Angle (Interface)	-	-	-	3.3	-40 +85	QFN-16	-
AS5055	12-bit Rotary Position Sensor with Digital Angle (Interface) output	12-bit	SPI	Digital Angle (Interface)	-	-	-	3.3	-40 +85	QFN-16	-
AS5115	Rotary Position Sensor with Sin/Cos signal output	-	SSI	Sin/Cos	-	-	-	5.0	-40 +150	SSOP-16	•
AS5215	Redundant Rotary Position Sensor with Sin/Cos Output	-	SSI	Sin/Cos	-	-	*	5.0	-40 +150	MLF-32	•
AS5130	8-bit Rotary Position Sensor with Digital Angle (Interface) and PWM output	8-bit	SSI	Digital Angle (Interface) / PWM	30000	-	-	5.0	-40 +150	SSOP-16	•
<b>NEW ▶</b> AS5132	8.5-bit Rotary Position Sensor with Digital Angle (Interface), ABI, UVW (up to 6 Pole Pairs) and PWM output	8.5-bit	SSI	Digital Angle (Interface) / ABI / UVW (up to 6 Pole Pairs) / PWM	72900	-	-	5.0	-40 +150	SSOP-20	•
AS5134	8.5-bit Rotary Position Sensor with Digital Angle (Interface), ABI, UVW (up to 6 Pole pairs) and PWM output	8.5-bit	SSI	Digital Angle (Interface) / ABI / UVW (up to 6 Pole Pairs) / PWM	82000	-	-	5.0	-40 +140	SSOP-20	•
AS5140H	10-bit Rotary Position Sensor with Digital Angle (Interface) Output, ABI and PWM output	10-bit	SSI	Digital Angle (Interface) / ABI / PWM	10000	-	-	3.3 or 5.0	-40 +150	SSOP-16	•
AS5145A/B	12-bit Rotary Position Sensor with Digital Angle (Interface), PWM and ABI output	12-bit	SSI	Digital Angle (Interface) / ABI / PWM	-	-	-	3.3 or 5.0	-40 +150	SSOP-16	•
AS5245	Redundant 12-bit Rotary Position Sensor with Digital Angle (Interface) and ABI output	12-bit	SSI	Digital Angle (Interface) / ABI / PWM	-	-	•	3.3 or 5.0	-40 +150	QFN-32	•
AS5145H	12-bit Rotary Position Sensor with Digital Angle (Interface) and PWM output	12-bit	SSI	Digital Angle (Interface) / PWM	-	-	-	3.3 or 5.0	-40 +150	SSOP-16	•
AS5163	12-bit Rotary Position Sensor with Linear analog or PWM output and Overvoltage Protection	12-bit	-	Linear analog / PWM	-	•	-	5.0	-40 +150	TSSOP-14	•

## Magnetic Rotary Position Sensors

Part No.	Description	Resolution	Interfaces	Output	Max Speed rpm	Overvoltage Protection	Redundant	Supply Voltage V	Temp. Range °C	Package	AUT Qualified
A55263	Redundant 12-bit Rotary Position Sensor with Linear analog or PWM output and Overvoltage Protection	12-bit	-	Linear analog / PWM	-	•	•	5.0	-40 +150	MLF-32	•
<b>NEW ▶</b> A55162	12-bit Rotary Position Sensor with Linear analog output and overvoltage protection	12-bit	-	Linear analog	-	•	-	5.0	-40 +150	SOIC-8	•
<b>NEW ▶</b> A55262	Redundant 12-bit Rotary Position Sensor with Linear analog output and overvoltage protection	12-bit	-	Linear analog	-	•	•	5.0	-40 +150	MLF-16	•
<b>NEW ▶</b> A55161	12-bit Rotary Position Sensor with PWM output and overvoltage protection	12-bit	-	PWM	-	•	-	5.0	-40 +150	SOIC-8	•
<b>NEW ▶</b> A55261	Redundant 12-bit Rotary Position Sensor with PWM output and overvoltage protection	12-bit	-	PWM	-	•	•	5.0	-40 +150	MLF-16	•

## Magnetic Linear Position Sensors

Part No.	Description	Resolution	Minimum Pole Pair Length mm	Interfaces	Output	Max Speed rpm	Overvoltage Protection	Redundant	Supply Voltage V	Temp. Range °C	Package	AUT Qualified
A55304A/B	160-step Linear Incremental Position Sensor with Linear analog and ABI output	160 steps (25µm/step)	4	-	Linear analog / ABI	20 m/s	-	-	5.0	-40 +125	TSSOP-20	-
A55306A/B	160-step Linear Incremental Position Sensor with Linear analog and ABI output	160 steps (15µm/step)	2.4	-	Linear analog / ABI	12 m/s	-	-	5.0	-40 +125	TSSOP-20	-
A55311	12-bit Linear Incremental Position Sensor with ABI and PWM output	12-bit (0.488µm/step)	2	SSI	ABI / PWM	0.65 m/s	-	-	3.3 or 5.0	-40 +125	TSSOP-20	-
NSE-5310	12-bit Linear Incremental Position Sensor with ABI and PWM output	12-bit (0.488µm/step)	2	I <sup>2</sup> C	ABI / PWM	0.65 m/s	-	-	3.3 or 5.0	-40 +125	TSSOP-20	-
A55510	10-bit Linear Absolute Position Sensor with digital interface	10-bit	-	I <sup>2</sup> C	Digital position (Interface)	-	-	-	2.5 - 3.6	-30 +85	WL-CSP	-

## 3D Absolute Position Sensors

Part No.	Description	Resolution	Interfaces	Output	Redundant	Supply Voltage V	Temp. Range °C	Package	AUT Qualified
<b>NEW ▶</b> A55410	14-bit Linear Absolute Position Sensor with Digital (Interface) and PWM output	14-bit	SPI, PWM	Digital (interface) / PWM	-	3.3	-40 +105	TSSOP-16	-

## EasyPoint™ Joystick Position Sensor

Part No.	Description	Resolution	Interfaces	Output	Overvoltage Protection	Redundant	Supply Voltage V	Temp. Range °C	Package	AUT Qualified
A55013	Two-dimensional Magnetic Position Sensor with Digital Coordinates output	8-bit (X and Y)	I <sup>2</sup> C	Digital Coordinates (interface)	-	-	3.0	-20 +80	QFN-16	-

# Mobile Entertainment



## Analog Integrated Microcontrollers

Part No.	MCU Core	Internal Memory	EMI	Mass Storage Interfaces	Interfaces*	General Purpose ADC	Audio Codec SNR	Audio Features	Power Management	Battery Type Support	Package
			GByte								(mm)
AS3524	32 bit ARM922TDMI 20-266MHz	320kB RAM 128kB ROM	4	Nand Flash, SLC, MLC SD/MMC Memory Stick (Pro) IDE, Ultra ATA	PS, SPDIF, USB2 HS&OTG, SPI & UARTS, 2-wire Serial IF, Display IF, MCU IF 8, 16-bit, 4x 8-bit GPIOs	-	-	-	-	-	CTBGA180 (10x10)
AS3525A	32 bit ARM922TDMI 20-266MHz	320kB RAM 128kB ROM	4	Nand Flash, SLC, MLC SD/MMC Memory Stick (Pro) IDE, Ultra ATA	PS, SPDIF, USB2 HS&OTG, SPI & UARTS, 2-wire Serial IF, Display IF, MCU IF 8, 16-bit, 4x 8-bit GPIOs	10 bit 16 channels	DAC: 94dB ADC: 83dB	Headphone Amp: 1x Line Out/In: 1x/2x Microphone In: 2x Audio Mix: yes Speaker Amp: yes	DC-DC StepUp: 1x45mA DC-DC StepDown: - LDO: 5x200mA, 1x2mA, 2x MIC Charge Pump: 1x for Core Current Sink: 1x40mA (progr.)	AA, AAA Li-Ion etc	CTBGA224 (13x13)
AS3525B	32 bit ARM922TDMI 20-266MHz	320kB RAM 128kB ROM	-	Nand Flash, SLC, MLC SD/MMC Memory Stick (Pro) IDE, Ultra ATA	PS, SPDIF, USB2 HS&OTG, SPI & UARTS, 2-wire Serial IF, Display IF, MCU IF 8, 16-bit, 4x 8-bit GPIOs	10 bit 16 channels	DAC: 94dB ADC: 83dB	Headphone Amp: 1x Line Out/In: 1x/2x Microphone In: 2x Audio Mix: yes Speaker Amp: yes	DC-DC StepUp: 1x45mA DC-DC StepDown: - LDO: 5x200mA, 1x2mA, 2x MIC Charge Pump: 1x for Core Current Sink: 1x40mA (progr.)	AA, AAA Li-Ion etc	CTBGA144 (10x10)
AS3527	32 bit ARM922TDMI 20-266MHz	320kB RAM 128kB ROM	4	Nand Flash, SLC, MLC SD/MMC Memory Stick (Pro) IDE, Ultra ATA	PS, SPDIF, USB2 HS&OTG, SPI & UARTS, 2-wire Serial IF, Display IF, MCU IF 8, 16-bit, 4x 8-bit GPIOs	10 bit 16 channels	DAC: 96dB ADC: 90dB	Headphone Amp: 1x Line Out/In: 2x/2x Microphone In: 2x Audio Mix: yes Speaker Amp: -	DC-DC StepUp: 1x45mA, 1x500mA DC-DC StepDown: 1x500mA, 2x250mA LDO: 4x200mA, 1x2mA, 2x MIC Charge Pump: 1x10mA Current Sink: 1x40mA (prog., log. Dimming)	Li-Ion etc	CTBGA224 (13x13)

\*) This table shows the main interfaces. For more information please refer to the datasheet.

## Mobile Entertainment Players

Part No.	MCU Core	Internal Memory	Distinguishing Features	Interfaces*	Integrated Audio	Integrated Power Management	Package
							(mm)
AS3530	32 bit ARM926EJ up to 400 MHz	512kB RAM 128kB ROM	Multimedia Microcontroller - Low power Audio Engine Multi-Standard Audio Decoder, Audio Postprocessor - Low power Video Engine Multi-Standard Video Decoder, Alpha Blending, Scaling, Rotation, PIP, up to D1 resolution - Security Cipher Engine - LCD Controller up to 1024x768	Ext Memory 16 bit & 32 bit Nand Flash (SLC, MLC, iNand, LBA) 3xSD, SDIO, MMC, CE-ATA, MS-Pro 3xPS IN/OUT, SPDIF I/O USB 2.0 HS OTG 3x SSI, 3x UART, IrDa, RGB LCD, MCU LCD, CAN-Bus, GPIOs, KBS XM-AMBADT	-	-	BGA-280 (10x10)
AS3531	32 bit ARM926EJ up to 266 MHz	512kB RAM 128kB ROM	Digital Audio Player - Low power Audio Engine Multi-Standard Audio Decoder, Audio Postprocessor - Low power Video Engine Multi-Standard Video Decoder, Alpha Blending, Scaling, Rotation, PIP, up to QCIF+ Resolution - Security Cipher Engine	Nand Flash (SLC, MLC, iNand, LBA) SD, SDIO, MMC, CE-ATA USB 2.0 HS OTG, SSI, UART, IrDa MCU LCD, GPIOs, KBS	DAC: 100dB SNR, -85dB THD ADC: 83dB SNR 6-Channel Audio Mixer Ground noise Cancellation CAP-less Headphone Out Line-In & Line-Out	Various DC-DC, LDOs for int. and ext. PM USB, Wall-plug Charger (e.g. Li-Ion, AAA), LED Backlight Driver, Real Time Clock, Power On Reset, Supervisor and Watchdog 10bit, 19 channel Gen Purpose ADC	BGA-124 (8x8)
AS3536	32 bit ARM926EJ up to 400 MHz	512kB RAM 128kB ROM	Multimedia Microcontroller - Low power Audio Engine Multi-Standard Audio Decoder, Audio Postprocessor - Low power Video Engine Multi-Standard Video Decoder, Alpha Blending, Scaling, Rotation, PIP, up to D1 resolution - Security Cipher Engine - LCD Controller up to 1024x768	Ext Memory 16bit & 32bit Nand Flash (SLC, MLC, iNand, LBA) 3xSD, SDIO, MMC, CE-ATA, MS-Pro 2xPS IN/OUT, SPDIF I/O USB 2.0 HS OTG, 3xSSI, 3xUART, IrDa RGB LCD, MCU LCD, CAN-Bus, GPIOs, KBS, XM-AMBADT	10 bit DAC: 100dB SNR, -85dB THD ADC: 83dB SNR 6-Channel Audio Mixer Ground noise Cancellation CAP-less Headphone Out Line-In & Line-Out	Various DC-DC, LDOs for int. and ext. PM USB, Wall-plug Charger (e.g. Li-Ion, AAA) LED Backlight Driver Real Time Clock, Power On Reset Supervisor and Watchdog 10bit, 19 channel Gen Purpose ADC	CTBGA-244 (10x10)

# The most natural sensors are the human senses. These are our inspiration. Our products should strive to be as refined, efficient and natural as they are.

**For example:**

**MEMS microphones** in mobile devices like smartphones rely on ams sensor interface solutions to make it sound like the people talking are standing right next to each other.

**Industrial Magnetic Position Sensors** from ams can measure the slightest movements of the arms and fingers of a surgical robot, enabling doctors to “take surgery beyond the limits of the human hand.”



# Piezo Motor Drivers

## SQUIGGLE® Motor Driver

Part No.	Description	Input Control	Input Voltage VDC	Output Voltage V	Current Output	Frequency Output	Efficiency	Features	Package (mm)
NSD-1202	2 Phase Ultrasonic Piezo Motor Driver IC, Output for Two SQUIGGLE® motors	I <sup>2</sup> C	2.8 to 5.5	24 to 40	25mA DC max	140 to 180kHz typical, min 80kHz	65% @ 2.8V	Voltage control over 2.8 to 5.5VDC, step-up converter to high-voltage, programmable voltage 24 to 40V, pulse width duty cycle control for slower speed control, 4 independently addressable output drivers with defined rise/fall time, I <sup>2</sup> C interface, on-chip registers store driver instructions, power-down mode for minimal power consumption in stand-by	QFN-16 (4x4)
NSD-2101	Ultrasonic Piezo Motor Driver IC, Output for one SQL-RV Series Reduced Voltage SQUIGGLE® RV	I <sup>2</sup> C	2.8 to 5.5	2.3 to 5.5	1600mA DC max	50 to 200 kHz	-	Control of 2.3 to 5.5 VDC input voltage allowing pulse width duty cycle control of one SQL-RV-1.8 SQUIGGLE® motor. I <sup>2</sup> C interface provides controls for two independently addressable full bridge output drivers with defined rise/fall time, on-chip	WL-CSP-16 (1.8x1.8) QFN-16 (4x4)

# Power Converters

## Signal Monitoring

Part No.	Description	Resolution bit	Features	Supply Voltage V	Temp. Range °C	Automotive Qualification	Package (mm)	Comments
AS8002	Solar photovoltaic inverter measurement IC with fast over current detection	12	Voltage and current measurement, programmable gain amplifiers, on-chip temperature sensor, fast overcurrent detection	3.0 - 3.6	-40 to +125	-	QFN-16 (4x4)	target market: photovoltaic solar inverters



# Power Management



## Comparators

Part No.	Inputs	Output Type	Internal Hysteresis	Supply Current	Supply Voltage	Package
	#		mV	µA	V	
AS1970	1	Push/Pull	3	10	2.5 to 5.5	SOT23-5
AS1971	1	Open-Drain	3	10	2.5 to 5.5	SOT23-5
AS1972	2	Push/Pull	3	17	2.5 to 5.5	MSOP-8
AS1973	2	Open-Drain	3	17	2.5 to 5.5	MSOP-8
AS1974	4	Push/Pull	3	34	2.5 to 5.5	TSSOP-14
AS1975	4	Open-Drain	3	34	2.5 to 5.5	TSSOP-14
AS1976	1	Push/Pull	3	0.2	1.8 to 5.5	SOT23-5
AS1977	1	Open-Drain	3	0.2	1.8 to 5.5	SOT23-5

## DC-DC Buck-Boost Converters

Part No.	Input Voltage	Output Voltage	Output Current*	Efficiency	Iq	Architecture	fmax	Enable/SHDN	Reset/POK	Features	Package
	V	V	mA	%	µA		kHz				(mm)
AS1331	1.8 to 5.5	2.5 to 3.3	300	90	22	Hysteretic, Sync	<500	•	•	Low Battery Detection	TDFN-10 (3x3)
AS1337	0.65 to 4.5	2.5 to 5.0	200	97	20	Fixed, Sync	1.200	•	•	LDO Mode	TDFN-8 (3x3)

## DC-DC Step-down Converters

Part No.	Input Voltage	Output Voltage	Output Current	Efficiency	Iq	Architecture	fmax	Enable/SHDN	Reset/POK	Features	Package
	V	V		%	µA		kHz				(mm)
▶ AS1324	2.7 to 5.5	0.6 to Vin	600 mA	96	20	Fixed, Sync	1500	•	•	Powersave Mode	TSOT23-5
AS1328	2.7 to 5.5	0.6 to 4.8	3000 mA	96	25	Fixed, Sync	1500	•	•	Battery monitoring	TDFN-16 (3x3)
AS1332	2.7 to 5.5	1.3 to 3.16	650 mA	96	1000	Fixed, Sync	2000	•	•	RF PA Supply, Vcon	WL-CSP-8
AS1333	2.7 to 5.5	3.09	650 mA	96	1000	Fixed, Sync	2000	•	•	RF PA Supply	WL-CSP-8
▶ AS1334	2.7 to 5.5	1.2, 1.5, 1.8, 2.5, 3.0, 3.3	650 mA	96	1000	Fixed, Sync	2000	•	•		TDFN-8 (3x3)
AS1335	2.6 to 5.25	0.6 to 5.25	1500 mA	96	400	Fixed, Sync	1500	•	-	High current	TDFN-8 (3x3)
AS1339	2.7 to 5.5	0.8 to 3.75	650 mA	95	4500*	Fixed, Sync	2000	•	-	2 integrated LDOs, Shutdown	WL-CSP-16 (2x2)
▶ AS1341	4.5 to 20	1.25 to Vin	600 mA	96	12	Hysteretic, Async	<250	•	•	100% Duty Cycle	TDFN-8 (3x3)
AS1346	2.7 to 5.5	1.2 to 3.6	1.2/0.5 A	95	2000	Fixed, Sync	2000	•	•	Battery monitoring, dual output	TDFN-12 (3x3)
AS1347	2.7 to 5.5	1.2 to 3.6	0.5/0.5 A	95	2000	Fixed, Sync	2000	•	•	Battery monitoring, dual output	TDFN-12 (3x3)
AS1348	2.7 to 5.5	1.2 to 3.6	0.5/0.95 A	95	2000	Fixed, Sync	2000	•	•	Battery monitoring, dual output	TDFN-12 (3x3)
AS1349	2.7 to 5.5	1.2 to 3.6	1.2/1.2 A	95	2000	Fixed, Sync	2000	•	•	Battery monitoring, dual output	TDFN-12 (3x3)
▶ AS7620A	3.6 to 32	1.2 to Vin	500 mA	90	30	Hysteretic, Async	<250	•	•	Early Power Fail Warning, 100% Duty Cycle	MLP-12 (4x4)
▶ AS7620B	3.6 to 32	3.3	500 mA	90	30	Hysteretic, Async	<250	•	•	Early Power Fail Warning, 100% Duty Cycle	MLP-12 (4x4)

▶ Design this product with:



\*) no load supply current

# Power Management

## DC-DC Step-up Converters

Part No.	Input Voltage V	Output Voltage V	Output Current* mA	Efficiency %	Iq μA	Architecture	fmax kHz	Enable/ SHDN	Reset/ POK	Features	Package (mm)
▶ AS1301	2.7 to 5.25	5.0	50	95	3000	Charge Pump	1000	•	-	Inductorless	TDFN-10 (3x3) WL-CSP-8
AS1302	2.9 to 5.15	5.0	30	90	100	Charge Pump	1200	•	-	Inductorless	WL-CSP-8 (1.2x1.2) TDFN-10 (3x3)
AS1310	0.7 to 3.6	1.8 to 3.0	110	92	1	Hysteretic, Sync	-	•	•	Output Disconnect	TDFN-8 (2x2)
▶ AS1320	1.5 to 3.5	3.3	200	90	35	Hysteretic, Sync	<200	•	•	Shdn Batt Feedthrough	SOT23-6
▶ AS1321	1.5 to 5.0	5.0	130	96	35	Hysteretic, Sync	<200	•	•	Shdn Batt Feedthrough	SOT23-6
▶ AS1322A	0.65 to 5.0	2.5 to 5.0	315	95	30	Fixed, Sync	1200	•	-	Powersave Mode	TSOT23-6
▶ AS1322B	0.65 to 5.0	2.5 to 5.0	315	95	30	Fixed, Sync	1200	•	-	Continuous Mode	TSOT23-6
▶ AS1323-27	0.75 to 2.0	2.7	100	85	1.6	Hysteretic, Sync	-	•	-	1.6μA Quiescent Current	TSOT23-5
▶ AS1323-30	0.75 to 2.0	3.0	90	85	1.6	Hysteretic, Sync	-	•	-	1.6μA Quiescent Current	TSOT23-5
▶ AS1323-33	0.75 to 2.0	3.3	80	85	1.6	Hysteretic, Sync	-	•	-	1.6μA Quiescent Current	TSOT23-5
AS1325-33	1.5 to 3.5	3.3	300	96	35	Hysteretic, Sync	<400	•	•	Shdn Batt Feedthrough	SOT23-6
AS1325-50	1.5 to 5.0	5.0	185	91	35	Hysteretic, Sync	<400	•	•	Shdn Batt Feedthrough	SOT23-6
AS1326	0.7 to 5.0	3.3, 2.5 to 5.0	650	96	65	Fixed, Sync	1200	•	-	Synchronizes to External Clock	TDFN-10
▶ AS1329	0.65 to 5.0	2.5 to 5.0	315	95	30	Fixed, Sync	1200	•	-	Shdn Batt Feedthrough	TSOT23-6
AS1330	0.8 to 3.3	1.8 to 3.3	230	92	25	Fixed, Sync	4000	•	•	Output Disconnect	TDFN-8 (2x2)
AS1336	0.8 to 3.6	2x 1.8 to 3.6	2x 230	92	15	Fixed, Sync	1200	•	•	Dual DC-DC	TDFN-16 (3x3)
AS1337	0.65 to 4.5	2.5 to 5.0	200	97	20	Fixed, Sync	1200	•	•	LDO Mode	TDFN-8 (3x3)
▶ AS1340	2.7 to 5.0	2.7 to 5.0	140**	90	30	Fixed, Async	1000	•	•	Output Disconnect	TDFN-8 (3x3)
▶ AS1343	0.9 to 3.6	5.5 to 42	180**	85	22	Fixed, Async	1000	•	•	Output Disconnect	TDFN-10 (3x3)
AS1344	0.9 to 3.6	5.5 to 42	100	85	22	Fixed, Async	1000	•	•	Softstart, Shutdown, Output Disconnect	TDFN-10 (3x3)

▶ Design this product with: 

\*) at 2V Vin; if Vout is adjustable, Vout = 3.3V \*\*) at 3.3Vin, Vout=12V

## Low Dropout Regulators

Part No.	Outputs	Accuracy	Output Current**	Feature	Output Voltage	Dropout Voltage @ max Current	Supply Current	Supply Voltage	Package
	#	%	mA		V	mV	µA	V	(mm)
AS1351	2	±1.5	200	OTP*	1.8 to 3.3	200	125	3.0 to 5.5	QFN-12 (3x3)
AS1352	4	±2.0	200	OTP*	1.8 to 3.3	200	225	3.0 to 5.5	QFN-12 (4x4), QFN-16 (3x3)
AS1353	1	±1.0	150	Low Noise	1.5 to 3.6	60	115	2.5 to 5.5	SOT23-5
AS1355	3	±1.0	300	OTP*	1.25 to 3.6	100 @ 200mA	160	2.3 to 5.5	QFN-16 (3x3)
AS1356	1	±1.0	150	Power-OK	1.5 to 3.6	60	115	2.5 to 5.5	SOT23-5
AS1357	3	±1.5	200	OTP*	1.8 to 3.3	200	175	3.0 to 5.5	QFN-12 (4x4), QFN-16 (3x3)
AS1358	1	±0.5	150	Ultra Low Noise, High PSRR	1.5 to 4.5	70	40	2.0 to 5.5	TSOT23-5
AS1359	1	±0.5	300	Ultra Low Noise, High PSRR	1.5 to 4.5	140	40	2.0 to 5.5	TSOT23-5
AS1360	1	±1.5	250	High Voltage, Low IQ	1.8, 2.5, 3.0, 3.3, 5.0	400	1.5	2.0 to 20	SOT23-3
AS1361	1	±0.5	150	Ultra Low Noise, High PSRR, POK	1.5 to 4.5	70	40	2.0 to 5.5	TSOT23-6
AS1362	1	±0.5	300	Ultra Low Noise, High PSRR, POK	1.5 to 4.5	140	40	2.0 to 5.5	TSOT23-6
AS1363	1	±0.75	500	Ultra Low Dropout, Ultra Low Noise	1.2 to 5.3	150	40	2.0 to 5.5	SOT23-6
AS1364	1	±0.75	1000	Ultra Low Dropout, Ultra Low Noise	1.2 to 5.3	140	35	2.0 to 5.5	TDFN-8 (3x3)
AS1367	1	±1.0	150	Under Voltage Lockout, Low IQ, Low Noise	1.2 to 5.5	100	10	2.0 to 5.5	TDFN-8 (2x2)
AS1369	1	±0.7	200	Micro-Sized	1.2 to 5.0	80	25	2.0 to 5.5	CS-WLP-4
AS1371	1	±1.0	400	Low Input Voltage	0.6 to 3.3	80	50	1.2 to 3.6	TDFN-6 (3x3)
AS1372	1	±1.5	350	Low Voltage applications	0.5 to 2.2	85	40	0.7 to 5.5	CS-WLP-5
AS1374	2	±1.0	200	Ultra Low Noise, High PSRR	1.2 to 3.6	120	30	2 to 5.5	CS-WLP-6
AS1375	1	±2	200	Ultra Low Quiescent Current	1.2 to 5	200	1	2 to 5.5	TDFN-6 (2x2)
AS1376	1	2	1000	Ultra Low Input Voltage, 2 weeks availability for non-standard devices between 0.5V and 1.1V in 50mV steps and between 1.1V and 2.2V in 100mV steps.	0.5 to 2.2	120	60	0.7 to 3.6	TDFN-8 (2x2)
AS13985	1	±1.0	150	Ultra Low Dropout	1.2 to 5.0	45	95	2.5 to 5.5	CS-WLP-5 / SOT23-5
AS13986	2	±1.0	150	Ultra Low Dropout	1.2 to 5.0	45	135	2.5 to 5.5	CS-WLP-8

\*) One Time Programmable: The Output Voltage of each Output port can be programmed, one time, on a PCB board, (\*\*) per output

## Real Time Clocks

Part No.	Functions	Date/Time Format	Interface	Supply Voltage	Time Keeping Current	Time of Day Alarms	Package
				V	µA		(mm)
AS1801	Clock/Calendar, Trickle Charger	24-hour or 12-hour format with AM/PM indicator	I <sup>2</sup> C	1.8 to 3.6	400	2	TDFN-8 (2x2)

# Power Management

## Power Management Units

Part No.	DC-DC Step up Converters	DC-DC Step down converters	RF LDOs	Digital LDOs	Current Sinks	Charge Pump	Audio DAC	Audio ADC	Audio Features	General Purpose ADC	Charger	Customizable Startup Sequences	Package
			mA	mA	mA	V/mA							
AS3603	45mA (Backlight)	0.5A	3x150, 2x75	2x200	4x160	5/30	-	-	0.5W Stereo	-	Linear	8x	QFN-48
AS3604	45mA (Backlight)	0.5A	3x200, 2x150	2x250	4x160	5/30	-	-	0.5W Stereo	-	Linear	8x	QFN-48
AS3605	-	0.5A	4x150	2x250	3x40, 2x160	6/60	-	-	1W Stereo	-	Linear	Programmable	QFN-40 (5x5)
AS3606	1x General Purpose (Voltage or Current Output) (30V)	3x0.7A or 1.4A+0.7A	1x100, 3x250	-	2x38 (HV)	-	-	-	-	10 bit	Linear	Programmable	QFN-32 (5x5)
AS3607	1x General Purpose (Voltage or Current Output) (30V)	3x0.7A or 1.4A+0.7A	1x100, 4x250	-	2x38 (HV)	-	-	-	-	10 bit	Linear	Programmable	QFN-36 (6x6)
AS3608	1x General Purpose (Voltage or Current Output) (30V)	3x1A or 2A+1A	1x100, 4x250	-	2x38 (HV)	-	-	-	-	10 bit	Linear	Programmable	QFN-36 (6x6)
AS3654	2x General Purpose (Voltage or Current Output)	3x0.5A	1x150, 1x400	2x200	4x40, 3x40 (HV)	5/100	18 bit	-	1x Headphone, 1x Line In, 1x Line Out	10 bit	Step-Down + Linear	8x	BGA-100 (10x10)
AS3658	2x General Purpose (Voltage or Current Output)	3x0.5A or 1.6A + 2x0.5A or 1.6A + 1A	1x400, 2x150	4x200	4x40, 3x40 (HV)	5/100	96dB SNR	84dB SNR	2x Headphone, 1x Line Out, 1x Line In, Mic Input, Audio Mixer, Equalizer	10 bit	Step-Down/Linear + Linear	8x + Programmable	BGA-124 (8x8)
AS3710	3x General Purpose (Voltage or Current Output)	1.5A + 2x1A or 2A + 1.5A	2x250	6x300	3x40 (HV)	-	-	-	-	10 bit	Step-Down/Linear	Programmable	QFN-56 (7x7)
AS3711	2x General Purpose (Voltage or Current Output)	1x3A + 1.5A + 2x1A or 3A + 2A + 1.5A	2x250	6x300	3x40 (HV)	-	-	-	-	10 bit	Step-Down/Linear	Programmable	QFN-56 (7x7)
AS3712	3x General Purpose (Voltage or Current Output)	1.5A + 2x1A or 2A + 1.5A	2x250	6x300	3x40 (HV)	-	-	-	-	10 bit	-	Programmable	QFN-56 (7x7)
AS3713	2x General Purpose (Voltage or Current Output)	1x3A + 1.5A + 2x1A or 3A + 2A + 1.5A	2x250	6x300	3x40 (HV)	-	-	-	-	10 bit	-	Programmable	QFN-56 (7x7)

## Supervisors

Part No.	Supervised Voltages	Supervised Voltages	Supervised Voltages	Supervised Voltages	Push/Pull Active Low	Push/Pull Active High	Open-Drain	Watch-dog	Manual Reset	Supply Current	Supply Voltage	Package
	V (IN1)	V (IN2)	V (IN3)	V (IN4)						μA	V	(mm)
AS1901	2.2 to 3.1	-	-	-	•	-	-	-	-	0.23	1.0 to 3.6	SOT23-3
AS1902	2.2 to 3.1	-	-	-	-	•	-	-	-	0.23	1.0 to 3.6	SOT23-3
AS1903	2.2 to 3.1	-	-	-	-	-	•	-	-	0.23	1.0 to 3.6	SOT23-3
AS1904	2.2 to 3.1	-	-	-	•	-	-	-	-	0.15	1.0 to 3.6	SOT23-3
AS1905	2.2 to 3.1	-	-	-	-	•	-	-	-	0.15	1.0 to 3.6	SOT23-3
AS1906	2.2 to 3.1	-	-	-	-	-	•	-	-	0.15	1.0 to 3.6	SOT23-3
AS1907	1.6 to 2.5	-	-	-	•	-	-	-	-	2.6	0.7 to 3.6	SOT23-3
AS1908	1.6 to 2.5	-	-	-	-	•	-	-	-	2.6	0.7 to 3.6	SOT23-3
AS1909	1.6 to 2.5	-	-	-	-	-	•	-	-	2.6	1.0 to 3.6	SOT23-3
AS1910	1.58 to 3.6	Adjustable	-	-	•	-	-	•	•	5.8	1.0 to 3.6	SOT23-6
AS1911	1.58 to 3.6	Adjustable	-	-	-	•	-	•	•	5.8	1.0 to 3.6	SOT23-6
AS1912	1.58 to 3.6	Adjustable	-	-	-	-	•	•	•	5.8	1.0 to 3.6	SOT23-6
AS1913	1.58 to 3.6	0.9 to 2.5	-	-	•	-	-	•	•	5.8	1.0 to 3.6	SOT23-6
AS1914	1.58 to 3.6	0.9 to 2.5	-	-	-	•	-	•	•	5.8	1.0 to 3.6	SOT23-6
AS1915	1.58 to 3.6	0.9 to 2.5	-	-	-	-	•	•	•	5.8	1.0 to 3.6	SOT23-6
AS1916	1.58 to 3.6	-	-	-	•	-	-	•	•	5.5	1.0 to 3.6	SOT23-5
AS1917	1.58 to 3.6	-	-	-	-	•	-	•	•	5.5	1.0 to 3.6	SOT23-5
AS1918	1.58 to 3.6	-	-	-	-	-	•	•	•	5.5	1.0 to 3.6	SOT23-5
AS1920-18	3	1.8	Adjustable	-	•	-	-	-	-	6.5	1.0 to 3.6	SOT23-5
AS1922-18	3	1.8	Adjustable	-	-	-	•	-	-	6.5	1.0 to 3.6	SOT23-5
AS1923A	5.0, Adj.	3.3, 3.0	2.5, 1.8, Adj	-5.0, 1.8, Adj	-	-	•	-	-	55	1.0 to 5.5	SOT23-5
AS1923B	5.0, Adj.	3.3, 3.0	2.5, 1.8, Adj	-5.0, 1.8, Adj	•	-	-	-	-	55	1.0 to 5.5	SOT23-5
AS1925	0.9, 1.2, 1.5	-	-	-	•	•	-	-	•	3.5	0.75 to 1.8	SOT23-5
AS1926	0.9, 1.2, 1.5	-	-	-	-	•	•	•	•	3.5	0.75 to 1.8	SOT23-5
AS1927	1.57 to 4.62	-	-	-	•	•	•	•	•	0.17	1.0 to 5.5	TDFN (2x2)

# Light Sensors (TAOS)

## Ambient Light Sensors

Part No.	Type	Operating Voltage	I <sup>2</sup> C Bus	Alternate Address Options	Programmable			Flexible Timing	Package	
		V			Gain	Integration Time	Interrupts		CL	FN
NEW ▶ TSL25721	Light-to-Digital	2.4 - 3.6	V <sub>DD</sub>	•	•	•	•	-	•	
NEW ▶ TSL25723	Light-to-Digital	2.7 - 3.6	1.8V	•	•	•	•	-	•	
NEW ▶ TSL45315	Light-to-Digital	2.3 - 3.3	V <sub>DD</sub>	•	Automatic	100, 200, 400 mS	-	•	•	
TSL45317	Light-to-Digital	2.3 - 3.3	1.8V	•	Automatic	100, 200, 400 mS	-	•	•	

## Ambient Light Sensors and Proximity Detection

Part No.	Type	Operating Voltage	I <sup>2</sup> C Bus	Alternate Address Options	IR LED	Recommended Operating Distance			Package
		V				Short: < 15 cm	Medium: < 46 cm	Long: > 46 cm	
TMD27711	Light-to-Digital	2.6 - 3.6	V <sub>DD</sub>	-	•	•	-	-	Module
TMD27713	Light-to-Digital	2.6 - 3.6	1.8V	-	•	•	-	-	Module
NEW ▶ TSL27721	Light-to-Digital	2.4 - 3.6	V <sub>DD</sub>	•	-	•	•	-	FN
NEW ▶ TSL27723	Light-to-Digital	2.4 - 3.6	1.8V	•	-	•	•	-	FN

## Color Sensors

Part No.	Type	Operating Voltage	I <sup>2</sup> C Bus	Alternate Address Options	Color Sensor	IR Filter	Color Filter Array Configuration	Ambient Light Sensing	Sync Input	Package		
		V								FN	CS	SOIC
NEW ▶ TCS34725	Light-to-Digital	2.7 - 3.6	V <sub>DD</sub>	•	RGBC	•	4 × 4	•	-	•	-	-
NEW ▶ TCS34727	Light-to-Digital	2.7 - 3.3	1.8V	•	RGBC	•	4 × 4	•	-	•	-	-
NEW ▶ TCS34715	Light-to-Digital	2.7 - 3.3	V <sub>DD</sub>	•	RGBC	-	4 × 4	•	-	•	-	-
TCS34717	Light-to-Digital	2.7 - 3.3	1.8V	•	RGBC	-	4 × 4	•	-	•	-	-
TCS3103/4	Light-to-Voltage	4.5 - 5.5	-	-	RGB	-	3 × 3	-	-	•	-	-
TCS3200	Light-to-Frequency	2.7 - 5.5	-	-	RGBC	-	8 × 8	-	-	-	-	•
TCS3210	Light-to-Frequency	2.7 - 5.5	-	-	RGBC	-	4 × 6	-	-	-	-	•
TCS3414	Light-to-Digital	2.7 - 3.6	V <sub>DD</sub>	•	RGBC	•	2 × 8	-	•	•	•	-

## Color Sensors and Proximity Detection

Part No.	Type	Operating Voltage	I <sup>2</sup> C Bus	Alternate Address Options	Color Sensor	IR Filter	Ambient Light Sensing	Recommended Operating Distance			Package
		V						Short: < 15 cm	Medium: < 46 cm	Long: > 46 cm	
NEW ▶ TCS37725	Light-to-Digital	2.7 - 3.6	V <sub>DD</sub>	•	RGBC	•	•	•	•	•	FN
TCS37727	Light-to-Digital	2.7 - 3.3	1.8V	•	RGBC	•	•	•	•	•	FN
NEW ▶ TCS37715	Light-to-Digital	2.7 - 3.3	V <sub>DD</sub>	•	RGBC	-	•	•	•	•	FN
TCS37717	Light-to-Digital	2.7 - 3.3	1.8V	•	RGBC	-	•	•	•	•	FN

## Proximity Detection

Part No.	Type	Operating Voltage	I <sup>2</sup> C Bus	Alternate Address Options	Recommended Operating Distance			Package
		V			Short: < 15 cm	Medium: < 46 cm	Long: > 46 cm	
TMD26711	Light-to-Digital	2.6 - 3.6	V <sub>DD</sub>	-	•	-	-	Module
TMD26713	Light-to-Digital	2.6 - 3.6	1.8V	-	•	-	-	Module
NEW ▶ TSL26721	Light-to-Digital	2.4 - 3.6	V <sub>DD</sub>	•	•	•	-	FN
NEW ▶ TSL26723	Light-to-Digital	2.7 - 3.6	1.8V	•	•	•	-	FN

## Light-to-Digital

	Part No.	Operating Voltage V	I <sup>2</sup> C Bus	Programmable			Alternate Address Options	Flexible Timing	Package	
				Gain	Integration Time	Interrupts			CL	FN
NEW ▶	TSL25721	2.4 - 3.6	VDD	•	•	•	•	•	-	•
NEW ▶	TSL25723	2.7 - 3.6	1.8V	•	•	•	•	•	-	•
NEW ▶	TSL45315	2.3 - 3.3	VDD	Automatic	100, 200, 400 mS	-	•	•	•	-
	TSL45317	2.3 - 3.3	1.8V	Automatic	100, 200, 400 mS	-	•	•	•	-

## Light-to-Frequency

Part No.	Operating Voltage V	Responsivity Hz/μW/cm <sup>2</sup>	F <sub>OUT</sub> (Max)	IR Only	Package				
					Sidelooker	DIP	SOIC	T	CL
TSL230	2.7 - 5.5	790 @ 640nm	1.1 MHz	-	-	•	•	-	-
TSL235	2.7 - 5.5	625 @ 635nm	500 KHz	-	•	-	-	-	-
TSL237	2.7 - 5.5	1200 @ 640nm	1 MHz	-	•	-	-	•	-
TSL238	2.7 - 5.5	3400 @ 640nm	1 MHz	-	-	-	•	•	-
TSL245	2.7 - 5.5	500 @ 940nm	500 KHz	•	•	-	-	-	-

## Light-to-Voltage

Part No.	Operating Voltage V	Responsivity				Fast Response	Low Noise	IR Only	Package			
		Low	Medium	High	Ultra				Sidelooker	SOIC	SM	T
TSL12	2.7 - 5.5	-	-	•	-	•	-	-	•	-	•	•
TSL13	2.7 - 5.5	-	•	-	-	•	-	-	•	-	•	•
TSL14	2.7 - 5.5	•	-	-	-	•	-	-	•	-	•	-
TSL250/60	2.7 - 5.5	-	•	-	-	-	•	TSL260	•	•	•	-
TSL251/61	2.7 - 5.5	-	•	-	-	-	•	TSL261	•	•	•	-
TSL252/62	2.7 - 5.5	•	-	-	-	•	•	TSL262	•	-	•	-
TSL253	2.7 - 5.5	-	•	-	-	•	-	-	•	-	•	-
TSL254	2.7 - 5.5	•	-	-	-	•	-	-	•	-	•	-
TSL257/67	2.7 - 5.5	-	-	-	•	-	-	TSL267	•	-	•	•

## Linear Sensor Arrays

Part No.	Operating Voltage V	DPI	Pixels	Integration	Clock MHz (Max)	Package			
						CS	CL	P	PCB
TSL201CL	4.5 - 5.5	200	64	Start/Stop per Pixel	5	-	•	-	-
TSL202R	4.5 - 5.5	200	128	Start/Stop per Pixel	5	-	-	•	-
TSL208R	4.5 - 5.5	200	512	Start/Stop per Pixel	5	-	-	-	•
TSL210	4.5 - 5.5	200	640	Start/Stop per Pixel	5	-	-	-	•
TSL2014	4.5 - 5.5	200	896	Start/Stop per Pixel	5	-	-	-	•
TSL1401	3.0 - 5.5	400	128	Frame by Frame	8	•	•	-	-
TSL1402R	3.0 - 5.5	400	256	Frame by Frame	8	-	-	•	-
TSL1406R	3.0 - 5.5	400	768	Frame by Frame	8	-	-	-	•
TSL1410R	3.0 - 5.5	400	1280	Frame by Frame	8	-	-	-	•
TSL1412S	3.0 - 5.5	400	1536	Frame by Frame	8	-	-	-	•
TSL3301	3.0 - 5.5	300	102	Frame by Frame	10	-	•	-	-

# RF Products

## NFC interface IC (NFiC)<sup>®</sup>

NEW >

Part No.	Protocols Supported	Frequency MHz	Features	Wakeup	Power Harvest mA	Data Rate kbps	Supply Voltage V	Temp. Range °C	Package	Interface Type
AS3953	ISO14443 A - Level 4 (106-844kbps) NFC Tag type 4	13.56	Energy harvesting, 1k EEPROM, Passive Wakeup, SPI	Inductive	5	up to 848	from RF Field	-40 to +85	MLPD10	SPI

## HF RFID Reader ICs

Part No.	Protocols Supported	Frequency MHz	Antenna Management	Wakeup	Closed Loop Modulation Depth Adjustment	Max. Output Power mW	Data Rate kbps	Supply Voltage V	Temp. Range °C	Package (mm)
AS3910	ISO14443 A/B, ISO-15693 (transparent mode)	13.56	Yes	No	Yes	700	up to 848	2.4 - 3.6	-40 to +85	QFN-32 (5x5)
AS3911	ISO14443 A/B (848kbps), ISO-15693, ISO18092 (NFC active) FeliCa, EMVCo	13.56	Yes	Capacitive & Inductive	Yes	1000	up to 6500 (VHBR)	2.4 - 5.5	-40 to +125	QFN-32 (5x5)

## UHF RFID Reader ICs

Part No.	Standards	ISM Range MHz	TX Modulation	Sensitivity dBm	Output Power dBm	Link frequencies supported kHz	Data Rate kbps	Temp. Range °C	Package
AS3990	EPC Class 1 - Gen 2, ISO 18000 6c/b	840-960	ASK-DSB, PR-ASK	-66	0	40 - 640	40 - 640	-40 to +85	QFN-64
AS3991	EPC Class 1 - Gen 2, ISO 18000 6c/b	840-960	ASK-DSB, PR-ASK	-66	20	40 - 640	40 - 640	-40 to +85	QFN-64
AS3992	EPC Class 1 - Gen 2, ISO 18000 6c/b, DRM	840-960	ASK-DSB, PR-ASK	-86	20	40 - 640	40 - 640	-40 to +85	QFN-64

## RF-Transceivers

Part No.	Description	ISM Range MHz	TX/RX Current Consumption mA (max)	Sensitivity dBm	Output Power dBm	Data Rate kbps	Supply Voltage V	Package (mm)
AS3900	27MHz FSK Transceiver with integrated Link Manager	27.12	7.3/3.8	-85@117kbps	0, 5, 10	26.5/53/106/212	2.2 to 3.6	QFN-28 (5x5)
AS3940	2.4GHz FSK Transceiver with integrated Link Manager	2405 to 2480	21.5/20.9	-100@250kbps -92.5@2Mbps	-24 to 0	250/1000/2000	2.2 to 3.6	QFN-32 (5x5)



## Ultra High Frequency

Part No.	Description	Standards	ISM Range	Channels	Temp. Sensor	Data Rate	Supply Voltage	Temp. Range	Package
			MHz	#		kbps	V	°C	(mm)
AS3977	Multi-Channel Narrowband FSK Transmitter	ETSI, FCC, ARIB, automotive qualified	300 - 928	Multi Width Narrow Bandwidth	Fully Integrated	up to 100	2.0 - 3.6	-40 to +85	QFN-16 (4x4)

## Low Frequency

Part No.	Description	LF Carrier Frequency Range	Channels	Current Consumption	Data Rate	Wakeup Sensitivity	Dynamic Range	RSSI step	Package
		kHz	#	µA	kbps	µVrms	dB	dB	(mm)
AS3930	1-D Low Power LF Wakeup Receiver	110 - 150	1	2.7	0.5 - 4	100	64	2	TSSOP-16, QFN-16 (4x4)
AS3931	3-D LF Wakeup Receiver	19 - 150, automotive qualified	3	7.2	1365	124	60	Analog	TSSOP-16
AS3932	3-D Low Power LF Wakeup Receiver	110 - 150	3	2.7	0.5 - 4	100	64	2	TSSOP-16, QFN-16 (4x4)
AS3933	3-D Low Power LF Wakeup Receiver with Auto Antenna Tuning	15 - 150	3 (with integrated Auto Antenna Tuning)	2.7	0.5 - 4	80	64	2	TSSOP-16 QFN-16 (4x4)

## Lightning Sensor

Part No.	Description	Features	Supply Voltage	Current Consumption	Interface	Temp. Range	Package
			V	(PD/Listening/Active) µA		°C	(mm)
<b>NEW ▶</b> AS3935	Franklin Lightning Sensor™ IC	Distance estimation up to 40km in 14 steps, embedded Disturber rejection algorithm & auto antenna tuning	2.4V to 5.5	0.4 / 60 / 210	SPI or I <sup>2</sup> C	-40 to 85	MLPQ-16 (4x4)

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