



● **PRODUCT SELECTION GUIDE**

April 2022

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SENSE



● SENSOR IC PACKAGE PORTFOLIO

SENSOR INTEGRATED CIRCUITS

The development of Allegro sensor ICs not only includes leading-edge innovations in the area of integrated circuit design but also includes application specific innovation in the area of custom package design.

A small sampling of our custom packaging developments include:

- Proprietary, integrated magnet packages that simplify magnetic system design in automotive speed sensing applications.
- Custom SOICW packaging that offers ultra-low series resistance, higher power density, and improved isolation ratings in a tiny footprint. See the MC package.
- Revolutionary, integrated current sensing packages with high-bandwidth magnetic design features. See the SOIC, QSOP, EX, and CA/CB packages with integrated, low-resistance current conductors and the 1 mm thick KT package.
- Small-footprint, low-profile packages for communications and consumer products.

CURRENT SENSING PACKAGES WITH INTEGRATED CONDUCTORS

EX (QFN)

Terminals: 12

Size: 3 x 3 mm body width



CB

Terminals: 5



LC (SOIC-8)

Terminals: 8



LA / MA / MC (SOIC-16)

Terminals: 16



LR (PSOF)

Terminals: 7



Please note: Package sizes are photographed to show relative scale.

LOW-PROFILE, SMALLEST FOOTPRINT PACKAGES

EH (DFN)

Terminals: 3-16

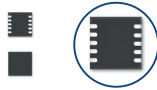
Size: 2 x 3 mm body width



EJ (TDFN)

Terminals: 3-16

Size: 3 x 3 mm body width



SURFACE-MOUNT PACKAGES

LH (SOT23W)

Terminals: 3, 5



LC (SOIC-8)

Terminals: 8



L/OL (SOIC-8 and SOIC-16)

Terminals: 8, 16



LE (TSSOP)

Terminals: 8, 14, 24



LJ (SOIC with exposed pad)

Terminals: 8-10

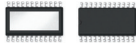
Size: 3.9 mm body width



LP (TSSOP with exposed pad)

Terminals: 14-28

Size: 4.4 mm body width



SINGLE IN-LINE PACKAGES

UA (TO-92)

Terminals: 3



K

Terminals: 4



KH

Terminals: 3



KT

Terminals: 4



KN

Terminals: 4



UB

Terminals: 2



UC

Terminals: 3



INTEGRATED MAGNET PACKAGES

SE

Terminals: 4



SG

Terminals: 4



SH

Terminals: 4



SL

Terminals: 3



SM

Terminals: 3



SN

Terminals: 2



SP

Terminals: 3



Please note: Package sizes are photographed to show relative scale.



CURRENT SENSOR ICs

0 TO 50 A INTEGRATED CURRENT SENSOR ICs

Part Number	Type	Measurement Range (A)	Isolation Voltage	Bandwidth (kHz)	Supply Voltage (V)	Temperature Range(s)	Primary Conductor Resistance	Package Type(s)
ACS37002LA	Bidirectional, Unidirectional	$\pm 10, \pm 12, \pm 15, \pm 20, \pm 25, \pm 30, \pm 37.5, \pm 50$	3600	400	3.3, 5	-40°C to 150°C	1	SOIC-16
ACS37002MA	Bidirectional, Unidirectional	$\pm 33, \pm 40, \pm 50, \pm 66, \pm 80, \pm 100, \pm 133$	4800	400	3.3, 5	-40°C to 150°C	0.85	SOIC-16
ACS37800	Bidirectional, Unidirectional	$\pm 15, \pm 30, > \pm 50$	4800	1	3.3, 5	-40°C to 125°C	0.85	SOIC-16
ACS711*	Bidirectional	$< \pm 10, \pm 20; < \pm 10, \pm 30$	100	100	3.3	-40°C to 85°C, -40°C to 125°C	0.6, 1.2	SOIC-8, QFN
ACS724/5LC	Bidirectional, Unidirectional	$< \pm 10, \pm 20, \pm 30, > \pm 50, 10, 20, 30$	2400	120	3.3, 5	-40°C to 150°C	1.2	SOIC-8
ACS724/5MA	Bidirectional, Unidirectional	$\pm 20, \pm 30, > \pm 50, 30$	4800	120	3.3, 5	-40°C to 125°C, -40°C to 150°C	0.85	SOIC-16

* Commercial

● CURRENT SENSOR ICs

0 TO 50 A INTEGRATED CURRENT SENSOR ICs (CONTINUED)

Part Number	Type	Measurement Range (A)	Isolation Voltage	Bandwidth (kHz)	Supply Voltage (V)	Temperature Range(s)	Primary Conductor Resistance	Package Type(s)
ACS732/3LA	Bidirectional, Unidirectional	$\pm 20, \pm 40, \pm 65, 65, \pm 75$	3600	1000	3.3, 5	-40°C to 125°C	1	SOIC-16
ACS732/3MA	Bidirectional	± 65	4800	1000	3.3, 5	-40°C to 125°C	1	SOIC-16
ACS71240EX	Bidirectional, Unidirectional	$< \pm 10, \pm 30, 50$	120	120	3.3, 5	-40°C to 125°C	0.6	QFN
ACS71240LC	Bidirectional, Unidirectional	$< \pm 10, \pm 30, \pm 45, 50$	2400	120	3.3, 5	-40°C to 150°C	1.2	SOIC-8

0 - 400 A INTEGRATED CURRENT SENSOR ICs

Part Number	Type	Measurement Range (A)	Isolation Voltage	Bandwidth (kHz)	Supply Voltage (V)	Temperature Range(s)	Primary Conductor Resistance	Package Type(s)
ACS37003	Bidirectional	±180	5000	400	3.3, 5	-40°C to 125°C	0.27	SOIC
ACS724/5MC	Bidirectional	±20,±30,±65	5000	120	3.3, 5	-40°C to 150°C	0.27	SOIC-16
ACS772	Bidirectional, Unidirectional	±50,±150, ±200,100	4800	200	5	-40°C to 85°C, -40°C to 125°C, -40°C to 150°C	0.1	Custom - Surface Mount or Thru Hole
ACS773	Bidirectional	±50,±100, ±200	4800	200	3.3	-40°C to 85°C, -40°C to 150°C	0.1	Custom - Surface Mount or Thru Hole
ACS72981	Bidirectional, Unidirectional	± 50,100,150	100	250	5 / 3.3	-40°C to 125°C, -40°C to 150°C	0.2	Custom - Surface Mount



CURRENT SENSOR ICs

FIELD SENSORS 0 TO >1000 A SENSOR ICs

Part Number	Type	Typical Sensitivity (mV/G)	Quiescent Output (V)	Bandwidth (kHz)	Supply Voltage (V)	Temperature Range(s)	Over Current Fault	Package Type(s)
A1365	User Programmable	0.6 to 14	Typ 50% VCC	120	5	-40°C to 150°C	Yes	SIP
A1369*	User Programmable	-8.5 to -12.5, -22 to -26	Typ 50% VCC	7	5	-40°C to 85°C	No	SIP
ACS37600	Bidirectional, Unidirectional	0.8 to 18	0.5, 1.5, 1.65, 2.5	400	5	-40°C to 125°C	Yes	TSSOP
ACS37612	Factory Programmable	5 to 15	Typ 50% VCC, Typ 10% VCC	240	3.3, 5	-40°C to 150°C	No	TSSOP
ACS70310	User Programmable	0.5 to 11.5	Typ 50% VCC, Typ 10% VCC	240	5	-40°C to 150°C	No	SIP
ACS70311	User Programmable	0.5 to 11.5	Typ 50% VCC, Typ 10% VCC	240	5	-40°C to 85°C	No	SIP
ACS73369*	User Programmable	9 to 13.5	Typ 50% VCC	7	5	-40°C to 85°C	No	SIP

* Commercial

MAGNETIC SWITCH AND LATCH ICs

HALL-EFFECT LATCHES AND BIPOLAR SWITCHES

Part Number	Features	Output	Sensor Type	Supply Voltage Min (V)	Supply Voltage Max (V)	Temperature Range(s)
APS12000	High EMC/ESD	Voltage	1D Planar	3	24	-40°C to 150°C
APS12060	High EMC/ESD	Voltage	1D Vertical	3	24	-40°C to 150°C
APS12170	Integrated Pull-Up Resistor	Current	1D Planar	3.8	16	-40°C to 175°C
APS122x0	High EMC/ESD	Voltage	1D Planar	2.8	24	-40°C to 150°C
APS122x5	5 V Latches	Voltage	1D Planar	2.8	5.5	-40°C to 150°C
APS12400	High EMC/ESD	Current	1D Planar	3	24	-40°C to 150°C
APS12450	High EMC/ESD, Advanced Diagnostics	Voltage	1D Planar	3	30	-40°C to 150°C
APS12800	High EMC/ESD, Advanced Diagnostics	Current	1D Planar	3	30	-40°C to 150°C
APS1329x	Standard Latches	Voltage	1D Planar	2.8	24	-40°C to 125°C

DUAL HALL-EFFECT LATCHES

Part Number	Features	Output	Sensor Type	Supply Voltage Min (V)	Supply Voltage Max (V)	Temperature Range(s)
A1262	2D Quadrature Sensor	Voltage	2D	4	24	-40°C to 150°C
APS12625	2D Speed/Direction Sensor	Voltage	2D	2.8	5.5	-40°C to 150°C
APS12626	2D Quadrature Sensor	Voltage	2D	2.8	5.5	-40°C to 150°C

MAGNETIC SWITCH AND LATCH ICs

TWO-WIRE HALL-EFFECT SWITCHES

Part Number	Features	Output	Sensor Type	Supply Voltage Min (V)	Supply Voltage Max (V)	Temperature Range(s)
A113x	Unipolar Switches	Current	1D Vertical	3	24	-40°C to 150°C
APS11500	High EMC/ESD Unipolar Switches	Current	1D Planar	3	24	-40°C to 150°C
APS11800	Unipolar Switches	Current	1D Planar	3	30	-40°C to 150°C
APS11900	Programmable Bop Threshold Switch	Current	1D Planar	3	24	-40°C to 150°C

THREE-WIRE HALL-EFFECT SWITCHES

Part Number	Features	Output	Sensor Type	Supply Voltage Min (V)	Supply Voltage Max (V)	Temperature Range(s)
APS11000	Standard Unipolar and Omnipolar Switch	Voltage	1D Planar	3.3	24	-40°C to 150°C
APS11060	Standard Unipolar and Omnipolar Switch	Voltage	1D Vertical	3.3	24	-40°C to 150°C
APS11200	Standard Unipolar and Omnipolar Switch	Voltage	1D Planar	2.8	24	-40°C to 150°C

THREE-WIRE HALL-EFFECT SWITCHES (CONTINUED)

Part Number	Features	Output	Sensor Type	Supply Voltage Min (V)	Supply Voltage Max (V)	Temperature Range(s)
APS11205	5 V Unipolar Switch	Voltage	1D Planar	2.8	5.5	-40°C to 150°C
APS11450	Background Diagnostics	Voltage	1D Planar	3	30	-40°C to 150°C
APS13295	General Purpose Switch	Voltage	1D Planar	2.8	24	-40°C to 125°C

MICROPOWER HALL-EFFECT SWITCHES

Part Number	Features	Output	Sensor Type	Supply Voltage Min (V)	Supply Voltage Max (V)	Temperature Range(s)
A1171	Dual Output Hall Switch	Voltage	1D Planar	1.7	3.5	-40°C to 85°C
A1266	3D Omnidirectional and Omnipolar	Voltage	3D	2.5	5.5	-40°C to 85°C
A3211/12	Low-Voltage Omnipolar	Voltage	1D Planar	2.5	3.5	-40°C to 85°C, -40°C to 150°C

MAGNETIC SWITCH AND LATCH ICs

MICROPOWER HALL-EFFECT SWITCHES (CONTINUED)

Part Number	Features	Output	Sensor Type	Supply Voltage Min (V)	Supply Voltage Max (V)	Temperature Range(s)
A3213/14	5 V Omnipolar	Voltage	1D Planar	2.5	5.5	-40°C to 85°C, -40°C to 150°C
APS11700	3.3 V - 24 V Micropower	Open Drain	1D Planar	3.3	24.0	-40°C to 150°C
APS11760	3.3 V - 24 V Micropower	Open Drain	1D Vertical	3.3	24.0	-40°C to 150°C

MAGNETIC ACTUATED LIGHTING

Part Number	Features	# of Channels	I _{out} per Channel (mA)	Operating Input Voltage Min (V)	Operating Input Voltage Max (V)	Temperature Range(s)	Package Type(s)
APS13568	Linear Micropower	1	150	7.0	24.0	-40°C to 85°C, -40°C to 125°C	eSOIC-8

● MAGNETIC LINEAR AND ANGLE POSITION SENSOR ICs

1D FACTORY PROGRAMMED LINEAR SENSOR ICs

Part Number	Output Type	Supply Voltage (V)	Quiescent Output	Typical Sensitivity (mV/G)	Output Bandwidth (kHz)	Temperature Range(s)	Package Type(s)
A1304	Analog Bipolar	3.0 to 3.6	Typ 50% Vref	0.5, 4	20	-40°C to 85°C	SOT23-W (LH)
A1308/09	Analog Bipolar	4.5 to 5.5	Typ 50% Vref	0.5, 1.3, 2.5, 3.125, 5, 9, -9	20	-40°C to 125°C, -40°C to 150°C	SOT23-W (LH), 1.5x4x3mm SIP-3 (UA)
A1315	Analog Bipolar	3.0 to 3.63	Typ 50% Vref	1.35, 2.5, 5	20	-40°C to 150°C	SOT23-W (LH), 1.5x4x3mm SIP-3 (UA)
A1324/25/26	Analog Bipolar	4.5 to 5.5	Typ 50% Vref	2.5, 3.125, 5	17	-40°C to 150°C	SOT23-W (LH), 1.5x4x3mm SIP-3 (UA)
A1359	Analog & PWM Unipolar	4.5 to 5.5	Typ 50% Vref	-9, +9	2	-40°C to 150°C	TSSOP-8 (LE)
A1391/92/93/95	Analog Bipolar	2.5 to 3.5	Typ 50% Vref	1.25, 2.5, 5, 10	Up to 10	-20°C to 85°C	2x3 mm MLP/DFN-6
A31004	Analog Bipolar	3.0 to 3.63	0.5V	3.3	20	-40°C to 150°C	SOT23-W (LH)
ALS31000	Analog Bipolar	4.5 to 5.5	0.7V	2.4	20	-40°C to 150°C	SOT23-W (LH)
ALS31001	Analog Bipolar	3.0 to 3.6 or 4.5 to 5.5	Typ 50% Vref	1.8, 2.5	20	-40°C to 150°C	1.5x4x3mm SIP-3 (UA)
A31010	Analog Unipolar	2.65 to 3.5	Typ 6.47% Vref	3.78	Up to 10	-20°C to 85°C	2x3mm DFN-6 (EH)

MAGNETIC LINEAR AND ANGLE POSITION SENSOR ICs

1D CUSTOMER PROGRAMMABLE LINEAR SENSOR ICs

Part Number	Output Type	Supply Voltage (V)	Absolute Maximum Supply Voltage	Typical Sensitivity (mV/G)	Output Bandwidth (kHz)	Temperature Range(s)	Package Type(s)
A1342	SENT, PWM	4.5 to 5.5	-16 to +20	0.0167 to 1.598 %FSO/G	0.04 to 7.4	-40°C to 150°C	1.5x4x4mm PCB-less SIP-3 (UC)
A1343	SENT, PWM	4.5 to 5.5	-20 to +30	0.025 to 0.5 %FSO/G	0.188 to 3.0	-40°C to 150°C	TSSOP-8 (LE)
A1356	PWM	4.5 to 18	-18 to +28	45 to 75 m%D/G	0.4	-40°C to 150°C	1.55x3.43x5.21mm SIP-3 (KB)
A1357	Two-wire current-mode PWM	4.5 to 18	-18 to +28	35 to 70, 70 to 145 m%D/G	0.4	-40°C to 150°C	1.55x3.43x5.21mm SIP-3 (KB)
A1377	Analog	4.5 to 5.5	-16 to +16	1 mV/G to 14.1 mV/G	2.5	-40°C to 125°C	1.5x4x4mm PCB-less SIP-3 (UC)
A31102	SENT, PWM	4.5 to 5.5	-16 to +20	0.0333 to 3.2016 %FSO/G, 0.05 to 4.8 %FSO/G	0.089 to 8.5	-40°C to 150°C	Single and dual die TSSOP-14 (LU)
A1454	I ² C	2.65 to 3.5	Code 2048	2 or 4 LSB/G	2	-40°C to 125°C	TSSOP-8
ATS344	Two-wire current-mode PWM	3.75 to 9.5	-20 to +20	0 to 0.8 %FSO/G	0.25 to 4.0	-40°C to 150°C	5x5.78x7.65mm PCB-less SIP-3 with integrated rare-earth pellet (SP)

2D & 3D ANGLE POSITION SENSOR ICs

Part Number	Output Type	Supply Voltage (V)	Resolution	Refresh Rate (μs)	Response Time (μs)	Features	Package Type(s)
A1330	Analog, PWM	4.5 to 5.5	12 bit	25	120	Programmable Angle Sensor	TSSOP-8 (Single die), TSSOP-8 (Dual die)
A1333	SPI, PWM, ABI or UVW	4.0 to 16.5	15 bit	1	10	ASIL Rated, High Speed Incremental Output	TSSOP-14 (Single die), TSSOP-24 (Dual die)
A1339	SPI, PWM, ABI or UVW	4.0 to 16.5	15 bit	1	10	ASIL Rated, High Speed Incremental Output with Low Power Mode	TSSOP-14 (Single die), TSSOP-24 (Dual die)
A33002	SPI, PWM, SENT	4.5 to 5.5	15 bit	2	17	SENT Output and Standard Manchester Programming	TSSOP-14 (Single & Dual die)
A33003	SPI, PWM, SENT	4.5 to 5.5	15 bit	2	17	SENT Output with Enhanced Manchester Programming	TSSOP-14 (Single & Dual die)
A33100	SPI, PWM, ABI & UVW	3.7 to 5.5	15 bit	1	10	On Chip Linearization with Simultaneous UVW and ABI Output Pins	TSSOP-14 (Single die), eTSSOP-28 (Dual die)
AAS33001	SPI, PWM, ABI or UVW	3.7 to 18	15 bit	1	10	ASIL Rated, High Speed Incremental Output with On Chip Linearization	TSSOP-14 (Single die), eTSSOP-24 (Dual die)
AAS33051	SPI, PWM, ABI or UVW	3.7 to 18	15 bit	1	10	ASIL Rated, High Speed Incremental Output with On Chip Linearization and Low Power Mode	TSSOP-14 (Single die), eTSSOP-24 (Dual die)
A33230	Analog	4.5 to 5.5	11 bit	--	7	3D Hall-Effect Sensor with Sine/Cosine Outputs	SOT-23W

● MAGNETIC LINEAR AND ANGLE POSITION SENSOR ICs

3D POSITION SENSOR ICs

Part Number	Output Type	Supply Voltage (V)	On-Chip Angle Calculation & Linearization	Active Magnetic Axes	Max Magnetic Field (G)	Temperature Range(s)	Package Type(s)
A31315	Analog, SENT, PWM	4.5 to 5.5	Yes	2 Axes (XY, XZ or YZ)	1000	-40°C to 150°C	Single die SOIC-8 (OL), dual die TSSOP-14 (LU)
ALS31300	I ² C	2.65 to 3.5	No	3 Axes (X, Y, Z)	500, 1000, 2000	-40°C to 85°C	3x3mm DFN-10 (EJ)
ALS31313	I ² C	2.65 to 3.5	No	3 Axes (X, Y, Z)	500, 1000, 2000	-40°C to 125°C	TSSOP-8 (LE)

● MAGNETIC SPEED SENSOR ICs

CAMSHAFT SENSOR ICs

Part Number	Protocol	Output Type	Power-On State	Operating Range	Integrated Components	Technology	Key Specifications	Package Type(s)
A16100	Speed	3-Wire	High (output off)	60 Gpp - 1200 Gpp	C1, C2	Hall	Programmable Thresholds	SIP
A16311	Speed	3-Wire	High	36 Gpp - 400 Gpp	C1, C2	Hall	TPOS, Integrated EMC Components, EEPROM, Self-Calibrating	SIP
ATS16301	Speed	3-Wire	Auto TPO	0.5 mm to 3.0 mm	C1, C2, R1, R2	Hall	Auto True Power On State (Auto TPOS), High Accuracy, EPROM, Integrated EMC Components, Integrated Magnet, Low Jitter	Custom - Thru Hole
ATS16351	Speed	3-Wire	Auto TPO	1.5 mm to 4.5 mm	C1, C2, R1, R2	GMR	GMR, Far Air Gap, Auto True Power On State (Auto TPOS), Stray Field Immune, High Accuracy, EEPROM, Integrated EMC Components, Integrated Magnet, Low Jitter	SIP

● MAGNETIC SPEED SENSOR ICs

CRANKSHAFT SENSOR ICs

Part Number	Protocol	Output Type	Power-On State	Specified Air Gap Range (Operating Range)	Integrated Components	Technology	Key Specifications	Package Type(s)
A1425	Speed	3-Wire	High (output off)	50 Gpp 1250 Gpp	-	Hall	Reverse Battery Protection, 20 Hz to 20 kHz Operation, Zero Crossing Switchpoint	SIP
A1696	Speed & Direction	3-Wire	High (output off)	50 G pk-pk 1200 G pk-pk	C1, C2	Hall	Integrated EMC Components, EEPROM, Low Jitter, Vibration Immunity	SIP
A16601	Speed	3-Wire	High (output off)	50 G pk-pk 1250 G pk-pk	C1, C2	Hall	Integrated EMC Components, 20 Hz to 20 kHz operation, AC Coupling, Differential, Reverse Battery Protection	SIP
ATS16951	Speed & Direction	3-Wire	High (output off)	1.0 mm to 3.5 mm	C1, C2, R1, R2	GMR	GMR, Far Airgap, Low Jitter, Integrated EMC Components, Integrated Magnet, EEPROM, Vibration Immunity	SIP

TRANSMISSION SENSOR ICs

Part Number	Protocol	Output Type	Power-On State	Operating Range	Integrated Components	Technology	Key Specifications	Package Type(s)
A1667	Speed	3-Wire	High (output off)	30 to 1400 G	-	Hall	Wide Hysteresis with Small Signal Lockout for Vibration Immunity, Customer Back Bias Capable	SOIC, SIP
A1684	Speed	2-Wire	High (current)	30 to 1500 G	-	Hall	Wide Hysteresis with Small Signal Lockout for Vibration Immunity, Customer Back Bias Capable	SIP
A19420	Speed	2-Wire	Low (current)	20 to 1500 G	C1	Hall	Wide Hysteresis with Small Signal Lockout for Vibration Immunity, Customer Back Bias Capable	SIP
A19520	Speed & Direction	2-Wire	Low (current)	30 to 1500 G	C1	Hall	Dynamic Air Gap, Vibration Immunity, Robustness to Magnetic Signal Anomalies	SIP
A19530	Speed & Direction	3-Wire	High (output off)	30 to 1500 G	C1,C2	Hall	Diagnostics: Open/Short Detection and ASIL B (D),Vibration Immunity, Robustness to Magnetic Signal Anomalies	SIP
A19570	Speed & Direction	2-Wire	Low (current)	5 G min	C1	GMR	Dynamic Air Gap, Vibration Immunity, Robustness to Magnetic Signal Anomalies Large Air Gap Capable	SIP
A19571	Speed & Direction	2-Wire	Low (current)	5 G min	C1	GMR	Dynamic Air Gap, Vibration Immunity, Robustness to Magnetic Signal Anomalies	SIP

MAGNETIC SPEED SENSOR ICs

TRANSMISSION SENSOR ICs (CONTINUED)

Part Number	Protocol	Output Type	Power-On State	Operating Range	Integrated Components	Technology	Key Specifications	Package Type(s)
ATS667	Speed	3-Wire	High (output off)	0.5 to 3.1 mm	Magnet	Back Biased Hall	Wide Hysteresis with Small Signal Lockout for Vibration Immunity, Integrated Back Bias Magnet	SIP
ATS668	Speed	3-Wire	High (output off)	0.5 to 3.0 mm	C1,C2,R1,R2, Magnet	Back Biased Hall	Wide Hysteresis with Small Signal Lockout for Vibration Immunity, Integrated Back Bias Magnet	SIP
ATS684	Speed	2-Wire	High (current)	0.5 to 3.0 mm	Magnet	Back Biased Hall	Wide Hysteresis with Small Signal Lockout for Vibration Immunity, Integrated Back Bias Magnet	SIP
ATS693	Speed & Direction	3-Wire	High (output off)	0.5 to 2.75 mm	Magnet	Back Biased Hall	Vibration Immunity, Integrated Back Bias Magnet	SIP
ATS19420	Speed	2-Wire	Low (current)	0.5 to 3.0 mm	C1, Magnet	Back Biased Hall	Wide Hysteresis with Small Signal Lockout for Vibration Immunity, Integrated Back Bias Magnet	SIP
ATS19480	Speed	2-Wire, 2-Wire (2 level + safe state)	High (current)	1.5 to 4.5 mm	C1, Magnet	Back Biased GMR	Dynamic Air Gap, Duty Cycle, High Accuracy, Robustness to Magnetic Signal Anomalies, Total Pitch Deviation	SIP
ATS19520	Speed & Direction	2-Wire	Low (current)	0.5 to 2.8 mm	C1, Magnet	Back Biased Hall	Dynamic Air Gap, Vibration Immunity, Robustness to Magnetic Signal Anomalies	SIP
ATS19580	Speed & Direction	2-Wire	Low (current)	1.5 to 4.5 mm	C1, Magnet	Back Biased GMR	Dynamic Air Gap, Vibration Immunity, Robustness to Magnetic Signal Anomalies, High Accuracy Large Air Gap Capable	SIP

WHEEL SPEED SENSOR ICs

Part Number	Protocol	Output Type	Power-On State	Operating Range	Integrated Components	Technology	Key Specifications	Package Type(s)
A19200	Speed	2-Wire	High or Low (current)	20 to 1200 G	C1, Magnet	Hall	Total Pitch Deviation, Robustness to Magnetic Signal Anomalies with Integrated Magnet	SIP
A19250	Speed	2-Wire	Low (current)	2.5 G min	C1	GMR	High Accuracy, Total Pitch Deviation, Robustness to Magnetic Signal Anomalies Large Air Gap Capable	SIP
A19301	Speed & Direction	2-Wire	Low (current)	20 to 1400 Gpp	C1	Hall	Total Pitch Deviation, Robustness to Magnetic Signal Anomalies	SIP
A19302	Speed & Direction	2-Wire	High (current)	20 G min	C1	Hall	Total Pitch Deviation, Robustness to Magnetic Signal Anomalies	SIP
A19350	Speed & Direction	2-Wire	Low (current)	5 G min	C1	GMR	High Accuracy, Total Pitch Deviation, Robustness to Magnetic Signal Anomalies Large Air Gap Capable	SIP
A19360	Speed and Direction	2-Wire	High (current)	5 to 400 G	C1	GMR	High Resolution, High Accuracy, Total Pitch Deviation, Robustness to Magnetic Signal Anomalies, Large Air Gap Capable	SIP
ATS19200	Speed	2-Wire	High or Low (current)	0.5 to 3 mm	C1	Back Biased Hall	Total Pitch Deviation, Robustness to Magnetic Signal Anomalies	SIP

● MAGNETIC SPEED SENSOR ICs

SPECIAL PURPOSE AND E-MOTOR SPEED SENSOR ICs

Part Number	Protocol	Output Type	Power-On State	Operating Range	Integrated Components	Technology	Key Specifications	Package Type(s)
A1468	Speed	3-Wire	High (output off)	20 G to 1200 G	-	Hall	Small Signal, Robustness to Magnetic Signal Anomalies	SIP
A1469	Speed	3-Wire	High (output off)	20 G to 1200 G	-	Hall	Small Signal, Robustness to Magnetic Signal Anomalies, Robust EMC	SIP
A17201	Speed	2-Wire	High (current)	35 G to 1250 G	-	Hall	AC Coupled, Minimum Operating Speed = 8 Hz	SIP
A17301	Speed	3-Wire	High	20 G to 1200 G	C1, C2	Hall	Integrated EMC Protection, Zero Speed, Duty Cycle	SIP
A17501	Speed & Direction	3-Wire	High	Minimum 40 Gauss	-	Hall	40 kHz, Dual Independent Output, ASIL, EEPROM, Async E-Motors	SIP
A17502	Speed & Direction	3-Wire	High	Minimum 30 Gauss		Hall	40 kHz, Narrow Target Dual Independent Output, ASIL, EEPROM, Async E-Motors	SIP

SPECIAL PURPOSE AND E-MOTOR SPEED SENSOR ICs (CONTINUED)

Part Number	Protocol	Output Type	Power-On State	Operating Range	Integrated Components	Technology	Key Specifications	Package Type(s)
ATS468	Speed	3-Wire	High (output off)	20 to 1200 G	-	Hall	Automatic Gain Control(AGC), Automatic Offset Adjustment(AOA), Small Signal, Robustness to Magnetic Signal Anomalies	Custom - Thru Hole
ATS605	Speed & Direction	3-Wire (x2)	High (output off)	0.5 mm to 3.0 mm	-	Hall	40 kHz, Dual Independent Output, EEPROM, Async E-Motors	Custom - Thru Hole
ATS17501	Speed & Direction	3-Wire	High	0.75 mm to 3.0 mm	-	Hall	Automotive, 2-Channel, 40 kHz Operation, ASIL, EEPROM, Vibration Immunity	Custom - Thru Hole

● INTERFACE ICs

SENSOR INTERFACE ICs

Part Number	Protocol	Delay Time	Bridge Resistance Range	Bridge Sensitivity	Bridge Offset Range	Interfaces Out	Thermal Shutdown (typ)	Key Specifications	Package Type(s)
A6850	Dual Channel Two-Wire Sensor Interface	Typ. 150 ns (enable) / Typ. 4 us (disable)	--	--	--	Voltage	175°C	Dual Channel, Low Voltage Drop, Diagnostics, Robust EMC, Sleep Mode	L-SOIC8
A17700	Pressure Sensor Interface	Typ. 250 us	1.5 to 10 kOhm	10 to 80 mV/V	+/- 80 mV/V	PWM, SENT, Analog	--	High Accuracy, Fast Response Time, Diagnostics, Robust EMC	QFN



REGULATE



● REGULATOR AND LIGHTING PACKAGE PORTFOLIO

POWER INTEGRATED CIRCUITS

Our power IC packages offer industry-leading thermal performance with limited board space.

TSSOP: Industry-standard TSSOP with optional exposed pad for enhanced thermal performance

QFP: Universal quad flat pack with exposed pad for enhanced thermal performance

**QFN/
TDFN** Quad and dual, low-profile, surface-mount packages with exposed pad for enhanced thermal performance (wettable flank options available)

MSOP: Industry-standard miniature small outline package with optional exposed pad for enhanced thermal performance

SOIC: Small-outline integrated circuit with optional exposed pad for enhanced thermal performance

CSP: Wafer-level chip scale

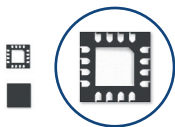
Additional industry-standard packaging options are available to meet individual design requirements.

WITHOUT LEADS

EC, ES, ET, EU, EV
(QFN with exposed pad)

Terminals: 16-48

Size: 3 x 3 mm body width to
7 x 7 mm body width



EE (DFN with exposed pad)

Terminals: 8

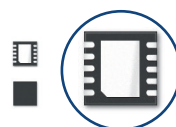
Size: 2 x 2 mm body to
3 x 3 mm body width



EJ (TDFN with exposed pad)

Terminals: 3-16

Size: 2 x 2 mm body to
3 x 3 mm body width



Please note: Package sizes are photographed to show relative scale.

WITH LEADS

JP (QFP with exposed pad)

Terminals: 32, 48

Size: 7 x 7 mm body width



LJ (SOIC with exposed pad)

Terminals: 8-10

Size: 3.9 mm body width



LV, LP (TSSOP with exposed pad)

Terminals: 16-38

Size: 4.4 mm body width



LY/LZ (MSOP with exposed pad)

Terminals: 10

Size: 3 mm body width



Please note: Package sizes are photographed to show relative scale.

REGULATORS

SINGLE OUTPUT REGULATORS

Part Number	Features	Topology	Operating Input Voltage Range (V)	Output Current	Converter Switching Frequency	Package Type(s)
A4403*	Non-Synchronous 3 Amp Buck Regulator	Buck	9 to 46	3	0.4 to 2.0 MHz	4x4 mm QFN-16
A4447*	Non-Synchronous 2 Amp Buck Regulator	Buck	8 to 50	2	Fixed tOFF	eSOIC-8
A4450	Buck-Boost Regulator with Seamless Mode Transition	Buck-Boost	3 to 36	2	0.25 to 2.2 MHz	4x4 mm QFN-20
A4480	5 V, 50 mA, Inductorless Buck-Boost Regulator with Output Short-to-Battery Protection and Power OK	Buck-Boost	3.5 to 40	0.05	0.325 MHz	eSOIC-8
A4481	5 V, 50 mA, LDO with Output Short-to-Battery Protection and Power OK	LDO	5.25 to 40	0.05	N/A	eSOIC-8
A8498*	Non-Synchronous 3 Amp Buck Regulator	Buck	8 to 50	3	Fixed tOFF	eSOIC-8
A8586	Non-Synchronous 3.5 Amp Buck Regulator	Buck	3.8 to 36	3.5	0.25 to 4.0 MHz	3x3 mm DFN-10, eSOIC-8
A8587	Non-Synchronous 2 Amp Buck Regulator with NPOR	Buck	3.8 to 36	2	0.25 to 4.0 MHz	3x3 mm DFN-10

* Commercial

SINGLE OUTPUT REGULATORS (CONTINUED)

Part Number	Features	Topology	Operating Input Voltage Range (V)	Output Current (A)	Converter Switching Frequency	Package Type(s)
A8591	Non-Synchronous 2 Amp Buck Regulator Family with Ultra Low-IQ Mode	Buck	4 to 35	2	0.3 to 2.4 MHz	3x3 mm DFN-10
A8650	Synchronous 2 Amp Buck Regulator with Power OK	SR Buck	2.5 to 5.5	2	0.25 to 2.4 MHz	3x3 mm DFN-10, eMSOP-10
A8660	Synchronous Buck Controller with PWM Frequency Dithering, Synchronization, and NPOR	SR Buck Controller	3 to 45	10 - 15	0.2 to 2.2 MHz	4x4 mm QFN-20
A81805	Synchronous Buck Regulator with Ultra Low Quiescent Current	Buck	2.5 to 36	2.5	0.4 to 2.5MHz	4x4 mm QFN-20
ARG81800	2.4 MHz, 1 Amp Ultralow Iq Synchronous Buck Regulator with Power Good, Synch Input, and Dithered Clock Output	SR Buck	3.5 to 36	1	0.25 to 2.4 MHz	4x4 mm QFN-20

REGULATORS

MULTIPLE OUTPUT REGULATORS

Part Number	Features	Operating Input Voltage Range (V)	Output Current	Converter Switching Frequency	Package Type(s)
A4405	Buck Pre-Regulator, 3x LDO Outputs and NPOR	5.5 to 36	3.3 V adj, 5 V 315 mA, 5 V 405 mA	up to 2.2 MHz	eTSSOP-20
A4407	Buck Pre-Regulator, 4x LDO Outputs and NPOR	5.5 to 36	1.2 V adj 3.3 V adj, 5 V 315 mA, 5 V 405 mA	up to 2.2 MHz	eTSSOP-24
A4408	Buck or Buck-Boost Pre-Regulator, Synchronous Buck, 3x LDO Outputs, Watchdog, and NPOR	2.8 to 36	5 V 115 mA, 3.3 V 165 mA, 5 V 255 mA, 1.25 V 700 mA	0.25 to 2.4 MHz	eTSSOP-38
A4409	Buck or Buck-Boost Pre-Regulator, 2x LDO Outputs, Watchdog, and NPOR	3 to 36	5 V 200 mA, 5 V 300 mA	0.25 to 2.4 MHz	eTSSOP-20
A4411	Buck or Buck-Boost Pre-Regulator, Synchronous Buck, 3x LDO Outputs, Watchdog, and NPOR	3 to 36	5 V 120 mA, 5 V 150 mA, 5 V 200 mA, Vadj 800 mA	0.25 to 2.4 MHz	eTSSOP-38

MULTIPLE OUTPUT REGULATORS (CONTINUED)

Part Number	Features	Operating Input Voltage Range (V)	Output Current	Converter Switching Frequency	Package Type(s)
A4412	Buck or Buck-Boost Pre-Regulator, Synchronous Buck, 5x LDO Outputs, Watchdog, NPOR, and SPI	3.8 to 40	5 V 30 mA, 5 V 55 mA, 3.3 V 90 mA, 5 V 100 mA, 5 V 200 mA, Vadj 400 mA	2.2 MHz	eTSSOP-38
A4413	Buck or Buck-Boost Pre-Regulator, Synchronous Buck, 1x LDO Output, Watchdog, and NPOR	3.5 to 36	5 V 75 mA, Vadj 800 mA	0.25 to 2.4 MHz	5x5 mm QFN-32
A4490*	3x Buck Regulator	4.5 to 34	1.5 A, 1.5 A, 1.5 A	550 KHz	4x4 mm QFN-20
A4491*	3x Buck Regulator	4.5 to 23	1.5 A, 1.5 A, 1.5 A	550 KHz	4x4 mm QFN-20
A8600	4x Output Regulator with Two High-Side Switches	4.4 to 40	Vadj 1 A, Vadj 1 A, Vadj 2 A, Vadj Controller	425 KHz	9x9 mm QFP-48

* Commercial

REGULATORS

MULTIPLE OUTPUT REGULATORS (CONTINUED)

Part Number	Features	Operating Input Voltage Range (V)	Output Current	Converter Switching Frequency	Package Type(s)
A8601	Multi-Output LCD Bias Supply Regulator	4 to 5.5	Six Adjustable Outputs	0.35 to 2.25 MHz	eTSSOP-28
A8603	Multi-Output LCD Bias Supply Regulator	3 to 10	Six Adjustable Outputs	0.35 to 2.25 MHz	4x4 mm QFN-24
A8651	2x 2 Amp Synchronous Buck Regulator with Synchronization and NPORs	2.5 to 5.5	2 A, 2 A	0.35 to 2.25 MHz	eTSSOP-20
A81407	Buck or Buck-Boost Pre-Regulator, 4x LDO Outputs, Watchdog, 4x Gate Drivers, and SPI	3.8 to 36	3.3 V 375 mA, 5 V 50 mA, 2x 5 V 120 mA	2.2 MHz	eTSSOP-38
ARG81400	Buck or Buck-Boost Pre-Regulator, Synchronous Buck, 5x LDO Outputs, Watchdog, NPOR, and SPI	3.8 to 50	5 V 30 mA, 5 V 55 mA, 3.3 V 90 mA, 5 V 100 mA, 5 V 200 mA, V _{adj} 400 mA	2.2 MHz	eTSSOP-38

* Commercial

MULTIPLE OUTPUT REGULATORS (CONTINUED)

Part Number	Features	Operating Input Voltage Range (V)	Output Current	Converter Switching Frequency	Package Type(s)
ARG81401	Buck or Buck-Boost Pre-Regulator, Synchronous Buck, 2x LDO Outputs, Watchdog, and NPOR	3 to 36	5 V 200 mA, 3.3 V 300 mA	0.25 to 2.4 MHz	eTSSOP-20
ARG81402	Buck Pre-Regulator, Synchronous Buck, 5x LDO Outputs, Watchdog, NPOR, and SPI	6 to 36	5 V 30 mA, 5 V 55 mA, 5 V 100 mA, 5 V 100 mA, 3.3 V 300 mA	2.2 MHz	5x5 mm QFN-32
ARG81403	Multi-Output Regulator with SR Buck Pre-Regulator, 5 Outputs, 3x Speed Sensor I/Os, Watchdog, and SPI	6 to 40	5 V 100 mA, 3.3 V 150 mA 5 V 300 mA	2.2 MHz	QFP-64
ARG82800 /01/01-01	Integrated PMIC for Safety-Related Systems with Buck or Buck-Boost Pre-Regulator, 4x Linear Regulators, 4x Gate Drivers, NPOR, and SPI	3.8 to 36	5 V 100 mA, 5 V 120 mA, 5 V 120 mA, 5 V/3.3 V 350 mA	2.2 MHz	eTSSOP-38

LIGHTING

LED DRIVER ICs - AUTOMOTIVE LIGHTING

Part Number	Features	Topology	Operating Input Voltage Range (V)	IOUT Per Channel (mA)	# of Channels	IOUT Max (mA)	Package Type(s)
A6211	3 Amp Non-Synchronous Buck LED Driver	Buck	6 to 48	3000	1	3000	eSOIC-8
A6214	2 Amp Synchronous Buck PWM/APWM Dimmable LED Driver	SR Buck	4.5 to 55	2000	1	2000	eSOIC-10
A6216	2 Amp Synchronous Buck PWM/APWM Dimmable LED Driver with Internal PWM Generator	SR Buck	4.5 to 55	2000	1	2000	eTSSOP-16
A6217	3 Amp Non-Synchronous Buck PWM Dimmable LED Driver	Buck	6 to 48	3000	1	3000	3x3 mm DFN-10, eSOIC-8
A6217-1	1.5 Amp Non-Synchronous Buck PWM Dimmable LED Driver	Buck	6 to 48	1500	1	1500	3x3 mm DFN-10, eSOIC-8
A6260	400 mA Linear LED Driver with Reverse Battery Protection	Linear	6 to 40	350	1	350	eSOIC-8
A6261	4x Channel 400 mA Linear LED Driver with Thermal Foldback, EN/PWM, and Fault Flag	Linear	6 to 50	100	4	400	eMSOP-10, eTSSOP-16

LED DRIVER ICs - AUTOMOTIVE LIGHTING (CONTINUED)

Part Number	Features	Topology	Operating Input Voltage Range (V)	IOUT Per Channel (mA)	# of Channels	IOUT Max (mA)	Package Type(s)
A6263	4x Channel 400 mA Linear LED Driver with thermal foldback	Linear	6 to 50	100	4	400	eSOIC-8
A6264	4x Channel 400 mA Linear LED Driver with bi-level control	Linear	6 to 50	100	4	400	eMSOP-10, eTSSOP-16
A6270-1	2x Channel Linear Controller with Internal PWM Generator and thermal foldback	Linear	5.3 to 40	Scalable	2	Scalable	eTSSOP-16
A6271-1	LED Controller/FET Driver with PWM Control	Buck-Boost, Boost, SEPIC	4.5 to 50	Scalable	1	Scalable	eTSSOP-16
A6274	6x Channel 360 mA Linear LED Driver with optional external FET control	Linear	5 to 42	60	6	360	eTSSOP-20
A6284	6x Channel 720 mA Linear LED Driver with optional external FET control	Linear	5 to 42	120	6	720	eTSSOP-20
A80803	Automotive Four-Channel Linear LED Controller with Internal PWM Dimming	Multiple	4.5 to 40	Scalable	1	Scalable	QFN-32
A80804	Programmable LED Driver with SPI Communication	Linear	5.3 to 40	Scalable	2	Scalable	QFN-32
ALT80800	2 Amp Synchronous Buck LED Driver	SR Buck	4.5 to 55	2000	1	2000	eTSSOP-16
ALT80802	1 Amp Non-Synchronous Buck-Boost (or 2 Amp Buck) LED Driver	Buck-Boost or Buck	3.8 to 50	2000	1	2000	3x3 mm DFN-10

LIGHTING

LED DRIVER ICs - AUTOMOTIVE BACKLIGHTING

Part Number	Features	Topology	Operating Input Voltage Range (V)	IOUT Per Channel (mA)	# of Channels	IOUT Max (mA)	Package Type(s)
A8502	2x Channel 240 mA Boost + Linear LED Driver	Boost + Linear	5 to 40	120	2	240	eTSSOP-16
A8513	1x Channel 150 mA Boost + Linear LED Driver	Boost + Linear	4.5 to 40	150	1	150	eMSOP-10, eTSSOP-16
A8514	4x Channel 320 mA Boost + Linear LED Driver	Boost + Linear	5 to 40	80	4	320	eTSSOP-20
A8517	10x Channel 600 mA Boost + Linear LED Driver with I ² C and Individual Channel Control	Boost + Linear	4.5 to 40	60	10	600	eTSSOP-28
A8518	2x Channel 400 mA Boost + Linear LED Driver	Boost + Linear	4.5 to 40	100	2	400	eTSSOP-16
A8519	4x Channel 400 mA Boost + Linear LED Driver	Boost + Linear	4.5 to 40	100	4	400	eTSSOP-20, 5x5 mm QFN-28

LIGHTING

LED DRIVER ICs - AUTOMOTIVE BACKLIGHTING (CONTINUED)

Part Number	Features	Topology	Operating Input Voltage Range (V)	IOUT Per Channel (mA)	# of Channels	IOUT Max (mA)	Package Type(s)
A8522	8x Channel 480 mA Boost + Linear LED Driver with I ² C and Individual Channel Control	Boost + Linear	4.5 to 40	60	8	480	eTSSOP-28
ALT80600/ A80603	4x Channel 480 mA Boost + Linear LED Driver with Ultra-Wide Dimming Ratio	Boost + Linear	4.5 to 40	120	4	480	4x4 mm QFN-24
A80601/04	4x Channel 840 mA Boost Controller + Linear LED Driver with Ultra-Wide Dimming Ratio	Boost + Linear	4.5 to 40	210	4	840	4x4 mm QFN-24
A80602/05	6x Channel 840 mA Boost Controller + Linear LED Driver with Ultra-Wide Dimming Ratio	Boost + Linear	4.5 to 40	140	6	840	4x4 mm QFN-24
A80606	6-Channel 840 mA Boost Controller + Linear LED Driver with Ultra-Wide Dimming Ratio	Boost + Linear	4.5 to 40	180	6	1080	7x7 mm QFN-48

● **DRIVE**

POWER IC PACKAGE PORTFOLIO

POWER INTEGRATED CIRCUITS

Our power IC packages offer industry-leading thermal performance with limited board space.

TSSOP: Industry-standard TSSOP with optional exposed pad for enhanced thermal performance

QFP: Universal quad flat pack with exposed pad for enhanced thermal performance

**QFN/
TDFN** Quad and dual, low-profile, surface-mount packages with exposed pad for enhanced thermal performance (wettable flank options available)

MSOP: Industry-standard miniature small outline package with optional exposed pad for enhanced thermal performance

SOIC: Small-outline integrated circuit with optional exposed pad for enhanced thermal performance

CSP: Wafer-level chip scale

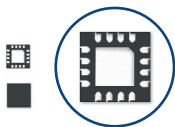
Additional industry-standard packaging options are available to meet individual design requirements.

WITHOUT LEADS

**ES, EC, ET, EU, EV
(QFN with exposed pad)**

Terminals: 16-48

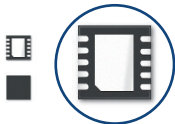
Size: 3 x 3 mm body width to
7 x 7 mm body width



EJ (TDFN with exposed pad)

Terminals: 3-16

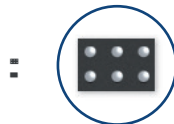
Size: 2 x 2 mm body to
3 x 3 mm body width



CHIP SCALE

CG (Chip Scale)

Terminals: 4-12



Please note: Package sizes are photographed to show relative scale.

● POWER IC PACKAGE PORTFOLIO

WITH LEADS

JP (QFP with exposed pad)

Terminals: 32, 48

Size: 7 x 7 mm body width



LJ (SOIC with exposed pad)

Terminals: 8-10

Size: 3.9 mm body width



LV, LP (TSSOP with exposed pad)

Terminals: 16-38

Size: 4.4 mm body width



LY/LZ (MSOP with exposed pad)

Terminals: 10

Size: 3 mm body width



LB (SOIC)

Terminals: 16-28

Size: 7.5 mm body width



Please note: Package sizes are photographed to show relative scale.

MOTOR DRIVERS

BRUSHLESS DC MOTOR DRIVERS - GATE DRIVER ICs

Part Number	Interface Type	Commutation Type	Motor Positioning Method	Operating Voltage Range (V)	Number of Bridges	Features	Package Type(s)
A4910K*	SPI, Direct	Universal	External	5 to 50	Half-Bridge x3	3x Current Sense Amps, VDS Monitor, Programmable Fault Output, Sleep Mode, Advanced Diagnostics	LQFP
A4915	PH/EN	Trapezoidal	Hall-Based	5 to 50	Half-Bridge x3	Fault Output, Sleep Mode, Adjustable Dead Time	TSSOP, QFN
A4918*	SPI, Direct	Universal	External	4.5 to 50	Half-Bridge x3	3x Current Sense Amplifier, Single Supply, VDS Monitor, Programmable Fault Output, Advanced Diagnostics, EEPROM Programmable	LQFP
A4919	SPI, Direct	Universal	External	5.5 to 50	Half-Bridge x3	Includes Integrated Regulator	TSSOP, QFN
A4930	PWM Speed	Trapezoidal	Hall-Based	8 to 36	Full-Bridge x1	1x Current Sense Amp, Soft-start, Lock Detect	QFN
A4931	PH/EN	Trapezoidal	Hall-Based	8 to 30	Half-Bridge x3	1x Current Sense Amp, Hall Bias, FG Output, Lock Detect	QFN
A4937*	PWM Speed, SPI	Trapezoidal	External	5.5 to 50	Half-Bridge x3	VDS Monitor, Programmable Fault Output, Sleep Mode, Advanced Diagnostics	TSSOP

*Automotive Grade Product (AEC-Q100 Qualified)

MOTOR DRIVERS

BRUSHLESS DC MOTOR DRIVERS - GATE DRIVER ICs (CONTINUED)

Part Number	Interface Type	Commutation Type	Motor Positioning Method	Operating Voltage Range (V)	Number of Bridges	Features	Package Type(s)
A4939*	Direct	Universal	External	5.5 to 50	Half-Bridge x3	VDS Monitor, Fault Output, Sleep Mode, 5.0 V LDO, 3.0 V LDO	TSSOP
A4960 (K)*	PWM Speed, SPI	Trapezoidal	Sensorless	6 to 50	Half-Bridge x3	1x Current Sense Amp, VDS Monitor, Programmable Fault Output, Sleep Mode, Advanced Diagnostics	LQFP
A4962*/3	PWM Speed, SPI	Trapezoidal	Sensorless	4.2 to 50	Half-Bridge x3	Internal PWM Current Control, 1x Current Sense Amp, Single Supply, VDS Monitor, Fault Output, Advanced Diagnostics, Closed Loop Speed Control	eTSSOP
A4964K*	PWM Speed, I ² C	Sinusoidal	Sensorless	5.5 to 50	Half-Bridge x3	Single Supply, OCP Protection, Advanced Diagnostics, EEPROM Programmable, Closed Loop Speed Control, Torque Control, Open Loop Speed Control	eQFN, eQFP
A5932 (K)*	PWM Speed, I ² C	Sinusoidal	Sensorless	5.5 to 50	Half-Bridge x3	Single Supply, OCP Protection, Advanced Diagnostics, EEPROM Programmable, Closed Loop Speed Control	TSSOP, QFN

*Automotive Grade Product (AEC-Q100 Qualified)

BRUSHLESS DC MOTOR DRIVERS - GATE DRIVER ICs (CONTINUED)

Part Number	Interface Type	Commutation Type	Motor Positioning Method	Operating Voltage Range (V)	Number of Bridges	Features	Package Type(s)
A5949	PWM Speed	Sinusoidal	Hall Based	5.5 to 50	Half-Bridge x3	Single Supply, OCP Protection, Fault Output, Sleep Mode	TSSOP, QFN
A89301	PWM Speed, I ² C, Analog	FOC	Sensorless	5.5 to 50	Half-Bridge x3	FOC, Single Supply, OCP Protection, Fault Output, EEPROM Programmable, Sleep Mode, Closed Loop Speed Control, FG Speed Output	QFN
A89306	PWM Speed, I ² C, Analog	FOC	Sensorless	5.5 to 50	Half-Bridge x3	FOC, Single Supply, OCP Protection, Fault Output, EEPROM Programmable, Sleep Mode, Closed Loop Speed Control, FG Speed Output	QFN
A89332	I ² C	Sinusoidal	Sensorless	5.5 to 50	Half-Bridge x3	Power Loss Brake, Single Supply, OCP Protection, Advanced Diagnostics, EEPROM Programmable, Closed Loop Speed Control, FG Speed Output	4x4mm QFN
AMT49406	PWM Speed, I ² C, Analog	FOC	Sensorless	5.5 to 50	Half-Bridge x3	FOC, Single Supply, OCP Protection, Fault Output, EEPROM Programmable, Sleep Mode, Closed Loop Speed Control, FG Speed Output	QFN, eTSSOP
AMT49413	PWM Speed	Trapezoidal	Hall Based	5.5 to 50	Half-Bridge x3	Internal PWM Current Control, 1x Current Sense Amp, OCP Protection, Fault Output, Sleep Mode, 5.0 V LDO	QFN

*Automotive Grade Product (AEC-Q100 Qualified)

MOTOR DRIVERS

BRUSHLESS DC MOTOR DRIVERS - INTEGRATED MOSFET ICs

Part Number	Interface Type	Commutation Type	Motor Positioning Method	Operating Voltage Range (V)	Peak Output Current (A)	Number of Bridges	Features	Package Type(s)
A3907	Serial	Universal	External	2.3 to 5.5	0.102	Low-Side x1	Sleep Mode, 10bit D-to-A Converter	WLCSP
A4946*	Analog, PWM Speed	Sinusoidal	Hall Based	4.8 to 32	1.35	Half-Bridge x3	VDS Monitor, Hall Bias, Lock Detect	TSSOP
A4947	Analog, PWM Speed	Sinusoidal	Hall Based	6 to 17	3.6	Half-Bridge x3	VDS Monitor, Hall Bias, Soft-Start, Lock Detect	TSSOP
A5931-3	PWM Speed, I ² C	Sinusoidal	Sensorless	5 to 16	3	Half-Bridge x3	Programmable Deceleration Time, Optional BEMF Detect Filter, Internal PWM Current Control, Single Supply, OCP Protection, Sleep Mode, Advanced Diagnostics, EEPROM Programmable, Closed-Loop Speed Control, FG Speed Output, RD Rotor Lock Output	QFN
A5931 (K)*	PWM Speed, I ² C	Sinusoidal	Sensorless	5 to 16	3	Half-Bridge x3	Internal PWM Current Control, Single Supply, OCP Protection, Sleep Mode, Advanced Diagnostics, EEPROM Programmable, Closed Loop Speed Control, FG Speed Output, RD Rotor Lock Output	TSSOP, QFN
A5940 (K)*	PWM Speed	Sinusoidal	Sensorless	4 to 18	1.7	Half-Bridge x3	OCP Protection, Lock Detect with Auto Restart, Sensorless Commutation	DFN, SOIC

*Automotive Grade Product (AEC-Q100 Qualified)

BRUSHLESS DC MOTOR DRIVERS - INTEGRATED MOSFET ICs (CONTINUED)

Part Number	Interface Type	Commutation Type	Motor Positioning Method	Operating Voltage Range (V)	Peak Output Current (A)	Number of Bridges	Features	Package Type(s)
A5941 (K)*	Analog, PWM Speed, SPI	Sinusoidal	Sensorless	4 to 18	1.4	Half-Bridge x3	Single Supply, OCP Protection, EEPROM Programmable, Soft-start, Lock Detect	SOIC
A89303	PMW Speed	Trap	Sensorless	5.5 to 40	5	Half-Bridge x3	Ultra-fast Start Up, Internal PMW Current Control, Single Supply, OCP Protection, Sleep Mode, EEPROM Programmable, FG Speed Output	QFN
A89331	PWM Speed, I ² C	Sinusoidal	Sensorless	7 to 20	3	Half-Bridge x3	Power Loss Brake, Internal PWM Current Control, Single Supply, OCP Protection, Sleep Mode, Advanced Diagnostics, EEPROM Programmable, Closed-loop Speed Control, FG Speed Output, RD Rotor Lock Output	eTSSOP, QFN
AMT49400	PWM Speed	Sinusoidal	Sensorless	4 to 18	2	Half-Bridge x3	Windowless Sinusoidal Drive, Single Supply, OCP Protection, EEPROM Programmable, Lock Detect	SOIC

*Automotive Grade Product (AEC-Q100 Qualified)

MOTOR DRIVERS

BRUSH DC MOTOR DRIVERS - LOW-VOLTAGE MOTOR DRIVERS (INTEGRATED MOSFET ICs)

Part Number	Operating Voltage Range (V)	Peak Output Current	Number of Bridges	Features	Package Type(s)
A3906	2.5 to 9	1.5	Full-Bridge x2	Single Supply, OCP Protection, VDS Monitor, Sleep Mode, Parallel Operation	QFN
A3908	3 to 5.5	0.5	Full-Bridge x1	Single Supply, Sleep Mode	DFN
A3909	4 to 18	1	Full-Bridge x2	Single Supply, OCP Protection, VDS Monitor, Sleep Mode, Parallel Operation	MSOP, SSOP
A3910	2.5 to 5.5	0.5	Half-Bridge x2	Single Supply, Sleep Mode	DFN
A3916	2.7 to 15	1	Full-Bridge x2	Single Supply, OCP Protection, Fault Output, Sleep Mode, Parallel Operation	QFN
A3918	2.5 to 9	1.5	Full-Bridge x1	Single Supply, Sleep Mode	QFN

BRUSH DC MOTOR DRIVERS - GATE DRIVER ICs WITH PARALLEL INTERFACE

Part Number	Operating Voltage Range (V)	Number of Bridges	Features	Package Type(s)
A3922K*	6 to 50	Full-Bridge x1	Single Supply, VDS Monitor, Programmable Fault Output, Sleep Mode, Advanced Diagnostics, Top-off Charge Pump	eTSSOP
A3924K*	6 to 50	Full-Bridge x1	Single Supply, VDS Monitor, Programmable Fault Output, Sleep Mode, Advanced Diagnostics, 3.3 V LDO, Top-off Charge Pump	eTSSOP
A3941K*	5.5 to 50	Full-Bridge x1	Single Supply, VDS Monitor, Fault Output, Sleep Mode, 5.0 V LDO, Top-off Charge Pump	TSSOP
A4926*	5.5 to 50	Half-Bridge x1	Single Supply, VDS Monitor, Programmable Fault Output, Sleep Mode, Advanced Diagnostics, Programmable Gate Drive	eTSSOP
A4927*	5.5 to 50	Half-Bridge x1	Single Supply, VDS Monitor, Programmable Fault Output, Sleep Mode, Advanced Diagnostics, Programmable Gate Drive	eTSSOP
A4928*	5.5 to 50	Half-Bridge x1	Single Supply, Sleep Mode, VDS Monitor, Fault Output, Advanced Diagnostics, Top-off Charge Pump, Programmable Gate Drive	TSSOP
A4955	5.5 to 50	Full-Bridge x1	Single Supply, VDS Monitor, Fault Output, Sleep Mode, Analog Current Output, Mixed Decay, Top-off Charge Pump	QFN, eTSSOP
A4956	5.5 to 50	Full-Bridge x1	Single Supply, VDS Monitor, Fault Output, Sleep Mode, Analog Current Output, Mixed Decay, Top-off Charge Pump	QFN, eTSSOP
A5929K*	5.5 to 50	Full-Bridge x1	Single Supply, VDS Monitor, Fault Output, Sleep Mode, Bootstrap Monitor	eTSSOP

*Automotive Grade Product (AEC-Q100 Qualified)

MOTOR DRIVERS

BRUSH DC MOTOR DRIVERS - GATE DRIVER ICs WITH PARALLEL INTERFACE (CONTINUED)

Part Number	Operating Voltage Range (V)	Number of Bridges	Features	Package Type(s)
A5957	5.5 to 50	Full-Bridge x1	Single Supply, VDS Monitor, Fault Output, Sleep Mode, Analog Current Output, Top-off Charge Pump	QFN
A89500*	8 to 80	Half-Bridge x1	Low Feature, High Power Half Bridge	DFN
A89503*	5.5 to 80	Half-Bridge x1	Separate Source and Drain Terminals, Single Supply, VDS Monitor, Sleep Mode, Advanced Diagnostics, 3.3 V and 5 V logic option, Top-off Charge Pump	TSSOP
AMT49502*	5.5 to 80	Half-Bridge x1	Single Supply, VDS Monitor, Sleep Mode, Advanced Diagnostics, 3.3 V and 5 V Logic Option, Top-off Charge Pump	TSSOP

BRUSH DC MOTOR DRIVERS - INTEGRATED MOSFET DRIVER ICs WITH PARALLEL INTERFACE

Part Number	Operating Voltage Range (V)	Peak Output Current	Number of Bridges	Features	Package Type(s)
A3998	9 to 50	1.5	Full-Bridge x2	Full, Half, 1/4, 1/8 Step Resolution, OCP Protection, Sleep Mode, 3.3/5.0 V LDO, Mixed Decay	QFN
A4950 (K)*	8 to 40	3.5	Full-Bridge x1	Single Supply, OCP Protection, Sleep Mode	SOICN
A4952	8 to 40	2	Full-Bridge x1	Single Supply, OCP Protection, Fault Output, Sleep Mode, Mixed Decay	MSOP, SOICN

*Automotive Grade Product (AEC-Q100 Qualified)

BRUSH DC MOTOR DRIVERS - INTEGRATED MOSFET DRIVER ICs WITH PARALLEL INTERFACE (CONTINUED)

Part Number	Operating Voltage Range (V)	Peak Output Current	Number of Bridges	Features	Package Type(s)
A4953	8 to 40	2	Full-Bridge x1	Single Supply, OCP Protection, Sleep Mode, Mixed Decay	MSOP, SOICN
A4954	8 to 40	2	Full-Bridge x2	Single Supply, OCP Protection, Sleep Mode, Mixed Decay	TSSOP
A5950 (K)*	5.5 to 40	0.5	Full-Bridge x1	1x Sense Amp, Single Supply, OCP Protection, FAULT Output, Sleep Mode	TSSOP, QFN

BIPOLAR STEPPER MOTOR DRIVERS - PARALLEL INTERFACE (I_o , I_i)

Part Number	Operating Voltage Range (V)	Peak Output Current	Number of Bridges	Features	Package Type(s)
A3901	2.5 to 5.5	0.4	Full-Bridge x2	Full, Half Step Resolution, Single Supply, Sleep Mode	DFN
A4986	8 to 35	2	Full-Bridge x2	Full, Half, 1/4 Step Resolution, OCP Protection, Sleep Mode, Mixed Decay	QFN, TSSOP
A4987	8 to 35	1	Full-Bridge x2	Full, Half, 1/4 Step Resolution, OCP Protection, Sleep Mode, Mixed Decay	QFN, TSSOP
A4990 (K)*	6 to 32	1.4	Full-Bridge x2	Full Step Resolution, Single Supply, Sleep Mode	TSSOP

*Automotive Grade Product (AEC-Q100 Qualified)

MOTOR DRIVERS

BIPOLAR STEPPER MOTOR DRIVERS - PARALLEL INTERFACE (I_0 , I_1) (CONTINUED)

Part Number	Operating Voltage Range (V)	Peak Output Current	Number of Bridges	Features	Package Type(s)
A5988	8 to 40	1.6	Full-Bridge x4	Full, Half, 1/4 Step Resolution, Single Supply, OCP Protection, Sleep Mode, Mixed Decay	QFN
A5989	8 to 40	1.6	Full-Bridge x4	Full, Half, 1/4 Step Resolution, Single Supply, OCP Protection, Sleep Mode, Mixed Decay	QFN
A5990	8 to 40	1.6	Full-Bridge x4	Adaptive Percent Fast Decay, Adjustable Off Time, Full, Half, 1/4 Step Resolution, Single Supply, OCP Protection, Sleep Mode, Mixed Decay	QFN
AMT49701	4 to 18	1	Full-Bridge x4	Full, Half, 1/4 Step Resolution, Single Supply, OCP Protection, Sleep Mode, Mixed Decay	QFN
AMT49702*	3.5 to 15	1	Full-Bridge x2	Half step resolution, Single Supply, OCP Protection, Fault Output, Sleep Mode	TSSOP

*Automotive Grade Product (AEC-Q100 Qualified)

BIPOLAR STEPPER MOTOR DRIVERS - SERIAL INTERFACE

Part Number	Operating Voltage Range (V)	Peak Output Current	Number of Bridges	Features	Package Type(s)
A3981K*	7 to 32	1.4	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, OCP Protection, Programable Fault Output, Sleep Mode, Advanced Diagnostics	TSSOP
A3992	15 to 50	1.5	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, OCP Protection, Sleep Mode, Mixed Decay	DIP, TSSOP
A4980K*	3.3 to 32	1.4	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, OCP Protection, Programable Fault Output, Sleep Mode, Advanced Diagnostics	TSSOP
A4993*	3.5 to 32	1.4	Full-Bridge x2	Integrated Current Sense, 50 V Transient compatible, Full, Half, 1/4, 1/16 Step Resolution, OCP Protection, Programable Fault Output, Sleep Mode, Advanced Diagnostic	TSSOP
A5995	8 to 40	3.2	Full-Bridge x2	Single Supply, OCP Protection, Sleep Mode, Mixed Decay	QFN

*Automotive Grade Product (AEC-Q100 Qualified)

MOTOR DRIVERS

BIPOLAR STEPPER MOTOR DRIVERS - STEP/DIRECTION INTERFACE

Part Number	Operating Voltage Range (V)	Peak Output Current	Number of Bridges	Features	Package Type(s)
A3987	8 to 50	1.5	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, OCP Protection, Sleep Mode, Automatic Mixed Decay	TSSOP
A4982	8 to 35	2	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, OCP Protection, Sleep Mode, Automatic Mixed Decay	QFN, TSSOP
A4983	8 to 35	2.5	Full-Bridge x2	Full, Half, 1/4, 1/8, 1/16 Step Resolution, Sleep Mode, Automatic Mixed Decay	QFN
A4984	8 to 35	2	Full-Bridge x2	Full, Half, 1/4, 1/8 Step Resolution, OCP Protection, Sleep Mode, Automatic Mixed Decay	QFN, TSSOP
A4985	8 to 35	1	Full-Bridge x2	Full, Half, 1/4, 1/8 Step Resolution, OCP Protection, Sleep Mode, Automatic Mixed Decay	QFN, TSSOP
A4988	8 to 35	2	Full-Bridge x2	Full, Half, 1/4, 1/8, 1/16 Step Resolution, OCP Protection, Sleep Mode, Automatic Mixed Decay	QFN
A4989	12 to 50	1.2	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, Sleep Mode, Mixed Decay	TSSOP
A4992K*	3.8 to 32	1.4	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, Single Supply, OCP Protection, Programmable Fault Output, Sleep Mode, Mixed Decay	TSSOP
A5976	8 to 40	2.8	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, OCP Protection, Fault Output, Sleep Mode, Automatic Mixed Decay	TSSOP
A5977	8 to 40	2.8	Full-Bridge x2	Full, Half, 1/4, 1/8 Step Resolution, OCP Protection, Sleep Mode, Automatic Mixed Decay	TSSOP

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BIPOLAR STEPPER MOTOR DRIVERS - STEP/DIRECTION INTERFACE (CONTINUED)

Part Number	Operating Voltage Range (V)	Peak Output Current	Number of Bridges	Features	Package Type(s)
A5979	8 to 40	2.8	Full-Bridge x2	Full, Half, 1/4, 1/16 Step Resolution, OCP Protection, Sleep Mode, Automatic Mixed Decay	TSSOP
A5984	8 to 40	2	Full-Bridge x2	Full, Half, 1/4, 1/8, 1/16, 1/32 Step Resolution, Single Supply, OCP Protection, Fault Output, Sleep Mode, Adaptive Percent Fast Decay	QFN, TSSOP
A5985	8 to 40	2	Full-Bridge x2	Full, Half, 1/4, 1/8, 1/16, 1/32 Step Resolution, Single Supply, OCP Protection, Fault Output, Sleep Mode, Adaptive Percent Fast Decay	QFN

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