



Product Selection Guide

January 2014



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SENSOR INTEGRATED CIRCUITS

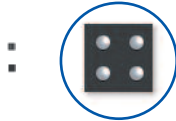
The development of Allegro sensor ICs not only includes leading edge innovations in the area of integrated circuit design but also includes application specific innovation in the area of custom package design.

A small sampling of Allegro's custom packaging developments include:

- Proprietary, integrated magnet packages that simplify magnetic system design in automotive speed sensing applications. See the SE, SG, SH and SJ packages.
- 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 DFN packages for communications and consumer products. See the EW and CG packages.

Low Profile, Smallest Footprint Packages

CG (WLCSP)
Terminals: 4
Size: .96 x .96 mm body width



EW (DFN)
Terminals: 6
Size: 1.5 x 2 mm body width



Surface Mount Packages

LH (SOT23W)
Terminals: 3



L/LC (SOIC-8)
Terminals: 8



Current Sensing Packages with Integrated Conductors

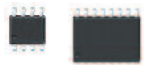
EX (QFN)
Terminals: 12
Size: 3 x 3 mm body width



CA/CB
Terminals: 5



L/LC (SOIC-8 and SOIC-16)
Terminals: 8, 16



LF (QSOP-24)
Terminals: 24



Single In-Line Packages

UA (TO-92)
Terminals: 3



K
Terminals: 4



KE
Terminals: 4



KT
Terminals: 4



KN
Terminals: 4



Integrated Magnet Packages

SE
Terminals: 4



SG
Terminals: 4



SH
Terminals: 4



SJ
Terminals: 4



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

POWER INTEGRATED CIRCUITS

Allegro's 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: Quad and dual, low-profile, surface-mount packages with exposed pad for enhanced thermal performance

TDFN

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.

With Leads

JP (QFP with exposed pad)

Terminals: 32, 48

Size: 7 x 7 mm body width



LP (TSSOP with exposed pad)

Terminals: 16-38

Size: 4.4 mm body width



LB (SOIC)

Terminals: 16-28

Size: 7.5 mm body width



LJ (SOIC with exposed pad)

Terminals: 8-10

Size: 3.9 mm body width



LY/LZ (MSOP with exposed pad)

Terminals: 10

Size: 3 mm body width



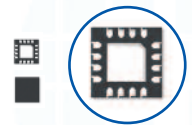
Without Leads

ES, EC, ET, EU, EV

(QFN with exposed pad)

Terminals: 16-48

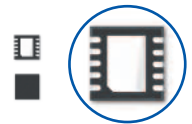
Size: 3 x 3 mm body width to 7 x 7 mm body width



EJ (TDFN with exposed pad)

Terminals: 3-16

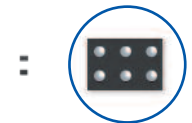
Size: 2 x 2 mm body to 3 x 3 mm body width



Chip Scale

CG (Chip Scale)

Terminals: 4-12



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

MAGNETIC LINEAR AND ANGULAR POSITION SENSOR ICs

Customer Programmable, Medium to High Accuracy Solutions

Part Number	Supply Voltage (V)	Quiescent Output (V)	Typical Sensitivity (mV/G)	Output Bandwidth (kHz)	Temperature Ranges	Packages
A1356	4.5 to 18	40% to 60% (programmable)	45 to 75 m% D/G (programmable)	0.4 (internal bandwidth)	L	KB
A1357	4.5 to 18	40% to 60% (programmable)	35 to 145 m% D/G (programmable)	0.4 (internal bandwidth)	L	KB
A1381	4.5 to 5.5	2.3 to 2.6 (programmable)	6 to 9 (programmable)	12	E, L	LH, UA
A1383	4.5 to 5.5	2.3 to 2.6 (programmable)	2.75 to 4.25 (programmable)	21	E, L	LH, UA
A1384	4.5 to 5.5	2.3 to 2.6 (programmable)	2 to 3 (programmable)	27	E, L	LH, UA
A1386	4.5 to 5.5 2.8 to 3.2	2.4 to 2.6 1.44 to 1.56 (programmable)	1.9 to 3.3 1.14 to 1.98 (programmable)	20	E, L	LH, UA
A1340	4.5 to 5.5	1.5 to 3.5 (programmable)	5 to 11.6 (programmable)	0.375 to 3 (programmable)	L	KT
A1341	4.5 to 5.5	+/-150 %FSO (Fact. Prog.)	0.025 to 0.18 %FSO/G (Fact. Prog.)	0.188 to 3 (programmable)	L	KT
A1343	4.5 to 5.5	+/-150 %FSO (Fact. Prog.)	0.2 to 0.3 %FSO/G (Fact. Prog.)	0.188 to 3 (programmable)	L	LE

Factory Programmed, Cost-Effective Solutions

Part Number	Supply Voltage (V)	Quiescent Output (V)	Typical Sensitivity (mV/G)	Output Bandwidth (kHz)	Temperature Ranges	Packages
A1301	4.5 to 6	Typ 50% Vcc	2.5	20	E, K	LH, UA
A1302	4.5 to 6	Typ 50% Vcc	1.3	20	E, K	LH, UA
A1304	3.0 to 3.6	Typ 50% Vcc	4	20	E	LH
A1318	3.00 to 3.63	Typ 50% Vref	1.35 or 2.50	20	L	LH
A1319	3.00 to 3.63	Typ 50% Vref	5	20	L	LH
A1324	4.5 to 5.5	Typ 50% Vcc	5	17	L	LH, UA
A1325	4.5 to 5.5	Typ 50% Vcc	3.125	17	L	LH, UA
A1326	4.5 to 5.5	Typ 50% Vcc	2.5	17	L	LH, UA
A1388	4.5 to 5.5	Typ 50% Vref	2.5	20	L	LH
A1389	4.5 to 5.5	Typ 50% Vref	9 or -9	20	L	LH
A1359	4.5 to 5.5	2.5 V/50%DC	9 or -9	2	L	TSSOP-08

Factory Programmed, Micro Power 3 V Linears, Cost-Effective Solutions

Part Number	Supply Voltage (V)	Quiescent Output (V)	Typical Sensitivity (mV/G)	Output Bandwidth (kHz)	Temperature Ranges	Packages
A1391	2.5 to 3.5	Typ 50% Vref	1.25	10	S	EH
A1392	2.5 to 3.5	Typ 50% Vref	2.5	10	S	EH
A1393	2.5 to 3.5	Typ 50% Vref	5	10	S	EH
A1395	2.5 to 3.5	Typ 50% Vref	10	10	S	EH

Temperature range codes: S = -20°C to 85°C, E = -40°C to 85°C, K = -40°C to 125°C, L = -40°C to 150°C

CURRENT SENSOR ICs

50 to 200 A Integrated Conductor Sensor ICs

Type	Part Number	Measurement Range (A)	Isolation Voltage (V _{RMS})	Bandwidth (kHz)	V _{cc}	Temperature Ranges	Packages
Bidirectional	ACS756	±50 to 100	3000	120	5	S, K	CA
Uni/Bidirectional	ACS758	±50 to 200	4800	120	5	E, K, L	CB
Bidirectional	ACS759	±50 to 200	4800	120	3.3	E, K, L	CB
Uni/Bidirectional	ACS770*	±50 to 200	4800	120	5	E, K, L	CB

* Improved accuracy over temperature achieved with proprietary advanced digital gain and offset compensation.

SIP Package 0 to >1000 A Sensor ICs

Part Number	Supply Voltage (V)	Quiescent Output (V)	Typical Sensitivity (mV/G)	Output Bandwidth (kHz)	Temperature Ranges	Packages
A1360	4.5 to 5.5	Typ 10% or 50% V _{cc}	0.7 to 1.4 Programmable	50	L	KT
A1361	4.5 to 5.5	Typ 10% or 50% V _{cc}	1.4 to 4.5 Programmable	50	L	KT
A1362	4.5 to 5.5	Typ 10% or 50% V _{cc}	4.5 to 16 Programmable	50	L	KT
A1363	4.5 to 5.5	Typ 50% V _{cc}	0.6 to 14 Programmable	120	L	KT

0 to 50 A Integrated Conductor Sensor ICs

Type	Part Number	Measurement Range (A)	Isolation Voltage (V _{RMS})	Bandwidth (kHz)	V _{cc}	Temperature Ranges	Packages
Bidirectional	ACS709	±12 to 75	2100	120	3.3, 5	L	QSOP-24
Bidirectional	ACS710	±12 to 75	3000	120	5	K	SOIC-16
Bidirectional	ACS711	±12.5 to 25	<100 VDC	100	3.3	E, K	SOIC-8, QFN-8
Bidirectional	ACS712	±5 to 30	2100	80	5	E	SOIC-8
Unidirectional	ACS713	20 to 30	2100	80	5	E	SOIC-8
Bidirectional	ACS714	±5 to 30	2100	80	5	E, L	SOIC-8
Unidirectional	ACS715	20 to 30	2100	80	5	E, L	SOIC-8
Bidirectional	ACS716	±12.5 to 25	3000	120	3.3	K	SOIC-16
Unidirectional	ACS764	16 or 32	<100 VDC	2	3.3	X	QSOP-24

High-Side Hot-Swap Hall-Effect-Based Current Monitor IC

Type	Part Number	Measurement Range (A)	Voltage (V)	Bandwidth (kHz)	Temperature Ranges	Packages
Hot Swap Controller	ACS761	±20	12 to 20	50	E	QSOP-24

Temperature range codes: S = -20°C to 85°C, E = -40°C to 85°C, K = -40°C to 125°C, L = -40°C to 150°C

MAGNETIC SPEED SENSOR ICs

Camshaft Sensor ICs

Part Number	Supply Voltage (V)	Output Type	Power-On State	Specified Air Gap Range (>20 Hz)	Key Spec	Minimum Speed	Packages
ATS601	3.3 to 24	3-wire	High (off)	0.5 to 2.5 mm	Timing accuracy	Zero speed	SG
ATS617	4.5 to 24	3-wire	High (off)	0.4 to 2.5 mm	Timing accuracy	10 Hz	SG
ATS128	4.2 to 24	3-wire	TPO	2.5 mm max	User programmable switch point	Zero speed	SE
ATS675	3.3 to 26.5	3-wire	TPO	0.5 to 3 mm	Timing accuracy	Zero speed	SE

Crankshaft Sensor ICs - Highly-Accurate Analog Speed Sensor ICs

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Minimum Speed	Packages
A1421	0 to 27.5	-12.5 to 7.5	Typ 15	20 Hz	K
A1422	5 to 35	-35 to -5	Typ 30	20 Hz	K
A1423	10 to 100	-100 to -10	Typ 130	20 Hz	K
A1425	-11 to 11	-11 to 11	Typ 8.5	20 Hz	K

Crankshaft Sensor ICs - Gear-Tooth Hall-Effect Speed Sensor ICs (Includes IC and Magnet)

Part Number	Supply Voltage (V)	Output Type	Power-On State	Specified Air Gap Range (>20 Hz)	Key Spec	Minimum Speed	Packages
ATS616	3.5 to 24	3-wire	High (off)	0.4 to 2.5 mm	Timing accuracy	10 Hz	SG
ATS617	4.5 to 24	3-wire	High (off)	0.4 to 2.5 mm	Timing accuracy	10 Hz	SG
ATS627	4 to 24	3-wire	High (off)	0.5 to 3 mm	Repeatability	Zero speed	SG

Transmission Sensor ICs

Part Number	Supply Voltage (V)	Output Type	Power-On State	Specified Air Gap Range	Key Spec	Minimum Speed	Packages
ATS667	4 to 24	3-wire	High (output off)	0.5 to 3.1 mm	Duty cycle	Zero speed	SG
ATS685	4 to 24	2-wire	High (current)	0.5 to 3 mm	Duty cycle	Zero speed	SH
ATS692	4 to 24	2-wire PWM	Low (current)	0.5 to 2.75 mm	Direction Detection	Zero speed	SH

Wheel Speed Sensor ICs

Part Number	Supply Voltage (V)	Output Type	Power-On State	Specified Air Gap Range	Key Spec	Minimum Speed	Applications	Packages
ATS642	4 to 24	2-wire	High (current)	0.5 to 3 mm	Duty cycle	Zero speed	ABS	SH
A1642	4 to 24	2-wire	High (current)	20 to 1000 G	Duty cycle	Zero speed	ABS	KN

Temperature range code: L = -40°C to 150°C

MAGNETIC DIGITAL POSITION SENSOR ICs

Continuous Time Latches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1210	25 to 150	-150 to -25	>50 (typ 180)	E, L	LH, UA	Open Drain	UGN3177
A1211	15 to 180	-180 to -15	>80 (typ 180)	L	UA	Open Drain	UGN3175
A1212	50 to 175	-175 to -50	100 to 350	L	LH, UA	Open Drain	A3187
A1213	80 to 200	-200 to -80	160 to 400	L	LH, UA	Open Drain	A3188, A3189
A1214	140 to 300	-300 to -140	280 to 600	L	LH, UA	Open Drain	A3185

General Purpose Stabilized Latches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1220	5 to 40	-40 to -5	Typ 45	E, L	LH, UA	Open Drain	A3280
A1221	15 to 90	-90 to -15	Typ 100	E, L	LH, UA	Open Drain	A3281
A1222	70 to 150	-150 to -70	Typ 220	E, L	LH, UA	Open Drain	—
A1223	100 to 180	-180 to -100	Typ 300	E, L	LH, UA	Open Drain	A3283

EMC Robust Chopper Stabilized Latches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1225	140 to 300	-300 to -140	340 to 540	L	LT, UA	Open Drain	—
A1227	50 to 175	-175 to -50	100 to 350	L	LT, UA	Open Drain	—
A1229	80 to 200	-80 to -200	160 to 400	L	LT, UA	Open Drain	—

Two-Wire Chopper Stabilized Latch

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1244	5 to 80	-80 to -5	40 to 110	L	LH, UA	Current Source	—

Commercial-Grade Chopper Stabilized Latches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A3290	5 to 50	-50 to -5	10 to 100	K	LH, UA	Open Drain	—
A3291	10 to 100	-100 to -10	20 to 100	K	LH, UH	Open Drain	—

Bipolar Hall-Effect Digital Switches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1202	<75	>75	>30	L	UA	Open Drain	UGx3133
A1203	<95	>95	>30	E, L	LH, UA	Open Drain	UGx3132
A1205	-40 to 50	-50 to 40	5 to 55	L	LH, UA	Open Drain	A3134
A1250	-10 to 25	-25 to 10	5 to 25	L	LH, UA	Open Drain	A3230

MAGNETIC DIGITAL POSITION SENSOR ICs

Continuous Time Unipolar Switches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1101	30 to 175	10 to 140	20 to 80	E, L	LH, UA	Open Drain	A3141
A1102	115 to 245	60 to 190	30 to 80	E, L	LH, UA	Open Drain	A3142
A1103	205 to 355	150 to 300	30 to 80	E, L	LH, UA	Open Drain	A3143
A1104	35 to 450	25 to 430	>20	E, L	LH, UA	Open Drain	A3144
A1106	260 to 430	160 to 330	70 to 140	E, L	LH, UA	Open Drain	A3121, A3122, A3123

Temperature range codes: S = -20°C to 85°C, E = -40°C to 85°C, K = -40°C to 125°C, L = -40°C to 150°C

General Purpose Chopper Stabilized Switches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1120	<50 (typ 35)	>5 (typ 25)	Typ 10	E, L	LH, UA	Open Drain	A3240
A1121	<120	>40	>10 Typ 25	E, L	LH, UA	Open Drain	A3241
A1122	<205	>105	>10 Typ 25	E, L	LH, UA	Open Drain	A3242
A1123	<355	>150	>30 Typ 55	E, L	LH, UA	Open Drain	n/a
A1125	<50 (typ 35)	>5 (typ 25)	Typ 10	E, L	LH, UA	Open Drain	A3340
A1126	< 55 G	< 50 G	5 to 30	L	LH, UA	Open Drain	A3245

Fixed Switch Point Two-Wire Chopper Stabilized Switches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1150	<110	>45	5 to 30	L	LH, UA	Current Source	A1140
A1152	<110	>45	5 to 30	L	LH, UA	Current Source	A3361, A1142
A1153	<110	>45	5 to 30	L	LH, UA	Current Source	A3163, A3362, A1143
A1155	20 to 60	10 to 55	5 to 30	L	LH, UA	Current Source	A1145
A1156	20 to 60	10 to 55	5 to 30	L	LH	Current Source	A1146
A1157	20 to 80	10 to 60	5 to 30	L	LH, UA	Current Source	A1147
A1158	20 to 80	10 to 60	5 to 30	L	LH, UA	Current Source	A1148

User Programmable, Chopper Stabilized Switches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A1128	+20 to +650 -650 to -20	—	5 to 30	L	UA	3-wire	—
A1190	10 to 200	—	5 to 30	L	LH, UA	Current Source	A1180
A1192	10 to 200	—	5 to 30	L	LH, UA	Current Source	A1182, A1185
A1193	10 to 200	—	5 to 30	L	LH, UA	Current Source	A1183, A1186

Commercial Grade Unipolar Switch

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Replaces
A3295	<75	>5	Typ 10	K	LH, UA	Open Drain	—

MAGNETIC DIGITAL POSITION SENSOR ICs

Dual Element Switches

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output Pins
A1230	30 max	-30 min	Typ 14	L	K, L	Dual Channel Quadrature
A1233	55 max	-55 min	Typ 30	L	K, L	Speed and Direction

Micropower Switches-Latches

Part Number	Operate Voltage (V)	Operating Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Supply Current (μ A)
A1171	1.65 to 3.5	\pm 55	\pm 6	Typ 6	E	EW	4 (typ) (VDD=1.8 V)
A1174	1.65 to 3.5	5 to 55	-55 to -5	Typ 72	E	EW	82 (VDD=3 V)
A3211	2.5 to 3.5	\pm 55	\pm 10	Typ 7.7	E	EL, EH, LH	6 (typ)
A3212	2.5 to 3.5	\pm 55	\pm 10	Typ 7.7	E, L	EL, EH, LH, UA	6 (typ)
A3213	2.4 to 5.5	\pm 70	\pm 10	Typ 7.7	E, L	LH, UA	850 (max)
A3214	2.4 to 5.5	\pm 70	\pm 10	Typ 7.7	E, L	LH, UA	22 (max)

Temperature range codes: S = -20°C to 85°C, E = -40°C to 85°C, K = -40°C to 125°C, L = -40°C to 150°C

Chopper Stabilized Switches with Integrated Diagnostics

Part Number	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temperature Ranges	Packages	Output	Key Features
A1160	<245	>60	Typ 55	L	LH	Open Drain	User Enabled Self Diagnostics

For switch interface ICs, please see the "High Side Drivers" section on page 13.



Allegro's Sensor IC Business Unit
The market leader in advanced, reliable magnetic sensor ICs

MOTOR DRIVERS AND INTERFACE ICs

Brushless DC Motor Drivers - MOSFET Gate Driver ICs

Part Number	Output Voltage Range (V)	Output Current	Number of Bridges	Key Spec	Interface	Packages
A4900	600	>10 A Typical	Three half bridges	Vds Monitors, Diagnostics	Parallel	QSOP-44
A4937	5.5 to 50	>10 A Typical	Three half bridges	Serial interface, Extensive serial diagnostic, Sleep mode	Serial	eTSSOP-28
A3946K	7 to 60	>10 A Typical	Half bridge	Diagnostics, High current gate drive, Top off charge pump	Parallel	eTSSOP-16
A3932	12 to 50	<25 A Typical	Three half bridges	Hall commutation logic, PWM current control, Tach output	Parallel	TSSOP-38
A3938	12 to 50	<25 A Typical	Three half bridges	A3932 w/ selectable coast or brake on power-down	Parallel	TSSOP-38
A3930/31K	7 to 50	>10 A Typical	Three half bridges	Hall commutation logic, PWM current control, diagnostics	Parallel	eLQFP-48
A4933K	7 to 50	>10 A Typical	Three half bridges	Diagnostics and sense amplifier, Pin compatible to A4935, Higher current gate drive	Parallel	eLQFP-48
A4935K	7 to 50	>10 A Typical	Three half bridges	Diagnostics and sense amplifier Top off charge pump	Parallel	eLQFP-48
A4939	5.5 to 50	>10 A Typical	Three half bridges	Diagnostics, 165C operation, and on-board linear regulator (3 V and 5 V)	Parallel	eTSSOP-28
A4960K	7 to 50	>10 A Typical	Three half bridges	Sensorless commutation, Programmable startup and run parameters and diagnostics	Parallel and SPI	eLQFP-32
A4910K	5.5 to 50	>10 A Typical	Three half bridges	Programmable parameters Diagnostics, 3x Sense amplifiers	Parallel and SPI	eLQFP-48
A4915	5 to 50	>10 A Typical	Three half bridges	Hall commutation logic, Analog speed input, Center aligned PWM	Parallel	eTSSOP-28, 5 x 5 mm QFN-28
A4931	8 to 38	<10 A Typical	Three half bridges	Hall commutation logic, PWM current control, Lock detect, FG output	Parallel	5 x 5 mm QFN-28
A4936	8 to 38	<10 A Typical	Three half bridges	A4931 with FG amplifier	Parallel	5 x 5 mm QFN-32
A4938	8 to 38	<10 A Typical	Three half bridges	A4931 with over voltage select, 5 V Hall bias	Parallel	5 x 5 mm QFN-28
A4930	8 to 36	<10 A Typical	Single full bridge	Single phase Hall commutation logic, PWM current control, Soft-start	Parallel	5 x 5 mm QFN-28

Brushless DC Motor Drivers - Integrated MOSFET ICs

Part Number	Output Voltage Range (V)	Output Current	Number of Bridges	Key Spec	Interface	Packages
A4941 /41-A	4.5 to 20	1.25 A	Three half bridges	Sensorless commutation, Integrated DMOS, OCP, Soft-switching, -A is AEC-Q100	Parallel	eTSSOP-16
A3907	2.3 to 5.5	102 mA	One linear sink driver	VCM driver with 10-bit D-to-A converter Current ramp control	I ² C	WLCSP-6 1.47 x 0.97 mm

Brush DC Motor Drivers - Low-Voltage Motor Drivers (Integrated MOSFET ICs)

Part Number	Output Voltage Range (V)	Output Current Range	Number of Bridges	Logic Supply Voltage Range	Packages
A3909	4 to 18	1 A	Dual Full	Internally generated	SSOP-10, MSOP-10
A3906	2.5 to 9	1 A	Dual full	Internally generated	QFN-20
A3918	2.5 to 9	1 A	Single full	Internally generated	QFN-16
A3901	2.5 to 5.5	400 mA	Dual full	Internally generated	DFN-10
A3903	2.5 to 5.5	500 mA	Single full	Internally generated	DFN-8
A3908	2.5 to 5.5	500 mA	Single full	Internally generated	DFN-8
A3910	2.5 to 5.5	500 mA	Dual Half	Internally generated	DFN-8

Brush DC Motor Drivers - MOSFET Gate Driver ICs with Parallel Interface

Part Number	Output Voltage Range (V)	Output Current Range	Number of Bridges	Logic Supply Voltage Range	Packages
A3946K	7 to 60	>10 A Typical	Half bridge	Internally generated	SOIC-16, eTSSOP-16
A3921K	7 to 50	> 10 A Typical	Single full	Internally generated	eTSSOP-28
A3941K	7 to 50	>10 A Typical	Single full	Internally generated	eTSSOP-28
A4940K	5.5 to 50	>10 A Typical	Single full	3 V to 5.5 V	eTSSOP-24
A4957	4.5 to 50	>10 A Typical	Single full	3 V to 5.5 V	QFN-16

Note: "K" suffix denotes automotive grade product (AEC-Q100 qualified)

MOTOR DRIVERS AND INTERFACE ICs

Brush DC Motor Drivers - Integrated MOSFET ICs with Parallel Interface

Part Number	Output Voltage Range (V)	Output Current Range	Number of Bridges	Logic Supply Voltage Range	Packages
A3959	9.5 to 50	3 A	Single full	4.5 V to 5.5 V	DIP-24, SOIC-24, eTSSOP-28
A3998	9 to 50	1.5 A	Dual full with dual regulators	3 V to 5.5 V	QFN-32
A4973	5 to 50	1.5 A		3 V to 5.5 V	DIP-16, SOIC-16
A4950 / A4950K	8 to 40	3.5 A	Single full	Internally generated	SOICN-8
A4952	8 to 40	2 A	Single full	Internally generated	MSOP-10
A4953	8 to 40	2 A	Single full	Internally generated	SOICN-8
A4954	8 to 40	2 A	Dual full	Internally generated	eTSSOP-16
A3949	8 to 36	2.8 A	Single full	Internally generated	SOIC-16, eTSSOP-16
A3950	8 to 36	2.8 A	Single full	Internally generated	eTSSOP-16, QFN-16
A3968	V _{cc} to 30	650 mA	Dual full	4.75 V to 5.5 V	SOIC-16

Bipolar Stepper Motor Drivers - Parallel Interface (I_o, I₁)

Part Number	Output Voltage Range (V)	Output Current Range	Interface	Packages
A4975	5 to 50	1.5 A	Parallel (I _o , I ₁)	DIP-16, SOIC-16
A4970	10 to 45	750 mA	Parallel (I _o , I ₁)	DIP-34, SOIC-24, PLCC-44
A4990K	7 to 50	1.4 A	Parallel (IN ₂ , IN ₄)	eTSSOP-20
A3988	8 to 36	1.2 A	Parallel (I _o , I ₁)	QFN-36, eLQFP-48
A3989	8 to 35	1.2 A (Step), 2.4 A (DC)	Parallel (I _o , I ₁)	QFN-36
A3995	8 to 35	2.4 A	Parallel (I _o , I ₁)	QFN-36
A4986	8 to 35	2 A	Parallel (I _o , I ₁)	eTSSOP-24
A4987	8 to 35	1 A	Parallel (I _o , I ₁)	QFN-24, eTSSOP-24
A3966	4.5 to 30	650 mA	Parallel (I _o , I ₁)	SOIC-16
A3906	2.5 to 9	1 A	Parallel (I _o , I ₁)	QFN-20
A3901	2.5 to 5.5	400 mA	Parallel (I _o , I ₁)	DFN-10

Bipolar Stepper Motor Drivers - Serial Interface

Part Number	Output Voltage Range (V)	Output Current Range	Interface	Packages
A3972	15 to 50	1.5 A	Serial	DIP-24
A3992	15 to 50	1.5 A	Serial	DIP-24, eTSSOP-24
A3985	12 to 50	<10 A Typical (MOSFET gate driver IC)	Serial	TSSOP-38
A3998	9 to 50	1.5 A	Serial	QFN-32
A3981K	7 to 50	1.4 A	SPI / Parallel (Translator)	eTSSOP-28
A4979	7 to 50	1.5 A	SPI / Parallel (Translator)	eTSSOP-28
A4980K	3.3 to 50	1.4 A	SPI / Parallel (Translator)	eTSSOP-28

Bipolar Stepper Motor Drivers - Step / Direction Interface

Part Number	Output Voltage Range (V)	Output Current Range	Interface	Packages
A3986	12 to 50	<10 A Typical (MOSFET gate driver IC)	Parallel (Translator)	TSSOP-38
A4989	12 to 50	<10 A Typical (MOSFET gate driver IC)	Parallel (Translator)	TSSOP-38
A3987	8 to 50	1.5 A	Parallel (Translator)	eTSSOP-24
A3981K	7 to 50	1.4 A	Parallel / SPI (Translator)	eTSSOP-28
A4979	7 to 50	1.5 A	SPI / Parallel (Translator)	eTSSOP-28
A4980K	3.3 to 50	1.4 A	Parallel / SPI (Translator)	eTSSOP-28
A4992K	7 to 50	1.4 A	Parallel / SPI (Translator)	eTSSOP-20
A3977	8 to 35	2.5 A	Parallel (Translator)	PLCC-44, eTSSOP-28
A3979	8 to 35	2.5 A	Parallel (Translator)	eTSSOP-28
A3982	8 to 35	1.5 A	Parallel (Translator)	SOIC-24
A3983	8 to 35	1.5 A	Parallel (Translator)	eTSSOP-24
A3984	8 to 35	1.5 A	Parallel (Translator)	eTSSOP-24
A4982	8 to 35	2.0 A	Parallel (Translator)	QFN-32, eTSSOP-24
A4983	8 to 35	2.0 A	Parallel (Translator)	QFN-28
A4984	8 to 35	2.0 A	Parallel (Translator)	QFN-24, QFN-32, eTSSOP-24
A4985	8 to 35	1.0 A	Parallel (Translator)	QFN-24, QFN-32, eTSSOP-24
A4988	8 to 35	2.0 A	Parallel (Translator)	QFN-28
A3967	4.75 to 30	750 mA	Parallel (Translator)	SOIC-24

Note: "K" suffix denotes automotive grade product (AEC-Q100 qualified)

MOTOR DRIVERS AND INTERFACE ICs

High Side Drivers

Part Number	Output Voltage	Output Current (per channel)	Number of Outputs	Description	Serial Input	Parallel Input	High Side / Low Side	Packages
A3942K	60	4 x pre-drive	4	Four channel high side MOSFET gate driver IC	Y	Y	High Side	TSSOP-38
UDx2982	50	8 x 350 mA	8	Eight channel high side driver IC	N	Y	High Side	SOIC-20
A6850K	40	2 x 25 mA	2	Two channel high side protected switch with current monitor outputs	N	Y	High Side	SOIC-8
UDN2987-6	35	8 x 350 mA	8	Eight channel high side driver IC with over-current protection	N	Y	High Side	SOIC-20

Low Side Drivers

Part Number	Output Voltage	Output Current (per channel)	Number of Outputs	Description	Serial Input	Parallel Input	High Side / Low Side	Packages
A2550K	50	3 x 250 mA	3 x low side 1 x LDO	3 channel low side relay driver / 5V regulator, POR, and watchdog	N	Y	Low Side	eTSSOP-16
A3944K	50	N/A	6	Six channel low side MOSFET Pre-driver IC	Yes	N/A	N/A	eTSSOP-28

Photoelectric Smoke Detector ICs

Part Number	Sensor Type	Reduced Sensitivity Timer	Horn Pattern	Supply Voltage (VDC)	Temperature Range (°C)	Packages
A5303	Photo	Yes	Temporal (T3)	2.3 to 5.5	-20 to 85	TSSOP-20
A5366	Photo	Yes	Temporal (T3)	6 to 12	-25 to 75	DIP-16, SOIC-16
A5358	Photo	Yes	Continuous Pulsing	6 to 12	-25 to 75	DIP-16, SOIC-16

Ionization Smoke Detector ICs

Part Number	Sensor Type	Reduced Sensitivity Timer	Horn Pattern	Supply Voltage (VDC)	Temperature Range (°C)	Packages
A5348	Ion	Yes	Continuous Pulsing	6 to 12	-10 to 60	DIP-16
A5367	Ion	Yes	Temporal (T3)	6 to 12	-10 to 60	DIP-16

Note: "K" suffix denotes automotive grade product (AEC-Q100 qualified)

REGULATORS AND LIGHTING

Low Noise Block Regulators for Satellite Set-Top Boxes

Part Number	Number of Channels	Output Current	Packages	Notes
A8285	Single	500 mA	SOIC-16	"Generation 2"
A8290	Single	900 mA	5 x 5 mm QFN-28	"Generation 3"
A8291	Single	600 mA	5 x 5 mm QFN-28	"Generation 3"
A8293	Single	700 mA	4 x 4 mm QFN-20	"Generation 3"
A8294	Single	850 mA	4 x 4 mm QFN-20	"Generation 3"
A8295	Single	Adjustable 250 to 950 mA	4 x 4 mm QFN-20	"Generation 4"
A8307	Single	Adjustable 0.5 to 1 A	4 x 4 mm QFN-20	For multiswitch power
A8296	Single	Adjustable 250 to 950 mA	3 x 3 mm QFN-16	"Generation 4"
A8298	Single	Adjustable 250 to 950 mA	4 x 4 mm QFN-20	"Generation 4" + Ceramics
A8303	Single	Adjustable 250 to 950 mA	4 x 4 mm QFN-20	"Generation 4" + Ceramics + 15.6 VOUT for Japan Market
A8305	Single	Adjustable 250 to 950 mA	3 x 3 mm QFN-16	"Generation 4" + Ceramics + 15.6 VOUT for Japan Market
A8300/-1	Single	Adjustable 250 to 950 mA	4 x 4 mm QFN-20	"Generation 5" (Ceramic or Electrolytic)
A8304	Single	Adjustable 250 to 950 mA	3 x 3 QFN-16	"Generation 5"
A8286	Dual	900 mA per channel	5 x 5 mm QFN-28	"Generation 3"
A8292	Dual	600 mA per channel	5 x 5 mm QFN-28	"Generation 3"
A8297	Dual	Adjustable 250 to 950 mA	5 x 5 mm QFN-28	"Generation 4"
A8299	Dual	Adjustable 250 to 950 mA	5 x 5 mm QFN-28	"Generation 4" + Ceramics

LED Drivers - Automotive Backlighting

Part Number	Topology	V _{IN}	Max OVP (V)	I _{OUT} Per Channel (mA)	Number of Channels	I _{OUT} Total	LEDs/Channel	Total LEDs	Frequency	Packages
A8501	Boost	6.8 to 40	38	100	4	400	9	36	0.6 to 2.2 MHz	eTSSOP-28
A8502	Boost	5 to 40	55	120	2	240	12	24	0.6 to 2.2 MHz	eTSSOP-16
A8510	Boost	5 to 40	55	40	8	320	12	96	0.6 to 2.2 MHz	5 x 5 QFN-26
A8511	Boost	6.8 to 40	38	150	4	600	9	36	0.6 to 2.2 MHz	eTSSOP-28
A8513	Boost	4.5 to 40	55	150	1	150	14	14	0.25 to 2 MHz	eMSOP-10, eTSSOP-16
A8514	Boost	5 to 40	55	80	4	320	12	48	0.6 to 2.2 MHz	eTSSOP-20
A8517	Boost	4.5 to 40	40	60	10	600	10	100	0.4 to 2.3 MHz	eTSSOP-28
A8522	Boost	4.5 to 40	40	60	8	480	11	88	0.4 to 2.3 MHz	eTSSOP-28
A8521	Boost	5 to 40	55	80	4	320	12	48	0.6 to 2.2 MHz	eTSSOP-20

LED Drivers - General Backlighting

Part Number	Topology	V _{IN}	Max OVP (V)	I _{OUT} Per Channel (mA)	Number of Channels	I _{OUT} Total	LEDs/Channel	Total LEDs	Frequency	Packages
A8500	Boost	5 to 27	47	25	8	200	12	96	0.2 to 2 MHz	4 x 4 mm TQFN-26
A8503	Boost	5 to 27	47	35	6	210	12	72	0.6 to 2.2 MHz	4 x 4 mm TQFN-26
A8504	Boost	5 to 27	47	40	8	320	11	88	0.2 to 2 MHz	4 x 4 mm TQFN-26
A8507	Boost Controller	5 to 27	Scalable	80	6	480	32	192	0.3 to 1 MHz	eTSSOP-24, SOIC-24
A8508	Boost Controller	9 to 40	Scalable	120	8	960	15	120	0.3 to 0.8 MHz	eTSSOP-24
A8509	Boost Controller	9 to 40	Scalable	240	4	960	15	60	0.3 to 0.8 MHz	eTSSOP-24, SOIC-24
A8510	Boost	5 to 40	55	40	8	320	12	96	0.6 to 2.2 MHz	5 x 5 QFN-26
A8512	Boost Controller	8 to 24	Scalable	120	6	720	32	192	0.3 to 1 MHz	SOIC-24
A8515	Boost	5 to 40	55	120	2	240	12	24	0.6 to 2.2 MHz	eTSSOP-16
A8516	Boost Controller	8 to 24	Scalable	120	6	720	32	192	0.3 to 1 MHz	eTSSOP-24, SOIC-24

LED Drivers - General Lighting

Part Number	Topology	Number of Channels	I _{OUT} per Channel	V _{LED} Max (V)	LEDs per Channel	Total LEDs	Latched Output	Serial Input	Packages
A6210	Buck	1	3 A	40	2 to 12	12	–	–	QFN-16
A6211	Buck	1	3 A	40	2 to 12	12	–	–	eSOIC-8
A6280	Linear	3	150 mA	17	1 to 5	3 to 15	Yes	Yes	DIP-16, QFN-16
A6281	Linear	3	150 mA	17	1 to 5	3 to 15	Yes	Yes	QFN-16
A6282	Linear	16	50 mA	13	1 to 4	16 to 64	Yes	Yes	QFN-24, SOIC-24, TSSOP-24

REGULATORS AND LIGHTING

LED Drivers - Automotive Lighting

Part Number	Topology	Number of Channels	I _{out} Max	V _{IN}	LEDs per Channel	Total LEDs	Packages
A6213	Buck	1	3 A	40	2 to 12	12	eSOIC-8
A6213-1	Buck	1	1.5 A	40	2 to 12	12	eSOIC-8
A6260	Linear	1	350 mA	6 to 40	2 to 3	3	eSOIC-8
A6261	Linear	4	400 mA	6 to 50	2 to 3	12	eMSOP-10, eTSSOP-16
A6262	Linear	4	400 mA	6 to 50	2 to 3	12	eMSOP-10, eTSSOP-16
A6263	Linear	4	400 mA	6 to 50	2 to 3	12	eSOIC-8
A6264	Linear	4	400 mA	6 to 50	2 to 3	12	eMSOP-10, eTSSOP-16
A6265	Buck-Boost / Boost	1	1 A+	6.5 to 50	2 to 15	15	eTSSOP-16
A6266	Boost	1	1 A+	5 to 50	5 to 15	15	eTSSOP-16
A6267	Buck-Boost / Boost	1	1 A+	6.5 to 50	2 to 15	15	eTSSOP-16
A6268	Buck-Boost / Boost	1	1 A+	5 to 50	2 to 15	15	eTSSOP-16
A6269	Linear	2	400 mA	6 to 50	2 to 3	6	eSOIC-8

Single Output Regulators

Part Number	Topology	Input Voltage (V)	Output	Packages
A4403	Buck	9 to 46	3 A	4 x 4 mm QFN-16
A4447	Buck	8 to 50	2 A	eSOIC-8
A8483	Boost	2.5 to 10	100 mA	3 x 3 mm TDFN-5
A8498	Buck	8 to 50	3 A	eSOIC-8
A8499	Buck	8 to 50	1.5 A	eSOIC-8
A8580K	Buck	4 to 40	2.5 A	eTSSOP-16
A8582K	Buck	4.7 to 40	2 A	eTSSOP-16
A8583K	Buck	4.7 to 40	3.5 A	eTSSOP-16
A8584K	Buck	4.7 to 40	2.5 A	eTSSOP-16
A8585K	Buck	4 to 40	2 A	eSOIC-10
A8650K	Buck	2.5 to 5.5	2 A	eMSOP-10
A8670	Buck	7 to 16	2 A	4 x 4 mm QFN-20
A8672	Buck	4.5 to 16	6+ A	4 x 5 mm QFN-28
A8698	Buck	8 to 25	3 A	eSOIC-8

Multiple Output Regulators

Part Number	Topology	Input Voltage (V)	Output	Packages
A4402K	Buck + LDO	6 to 50	Buck - 1 A / LDO-0.25 A	16-ETSSOP
A4405K	Internal Buck + 3 LDO	5.5 to 50	~300 mA/ch for 5 V up to ~500 mA for 3.3 V up to ~400 mA for 5 VP	eTSSOP-20
A4406K	Internal Buck + 2 LDO	5.5 to 50	~300 mA/ch for 5 V up to ~500 mA for 3.3 V	eTSSOP-20
A4407K	Internal Buck + 4 LDO	5.5 to 50	~300 mA/ch for 5 V up to ~250 mA for 5 VP up to ~500 mA for 3.3 V up to ~700 mA for Vadj	eTSSOP-24
A4490	3 x Buck	4.5 to 34	Each output rated at 2.2 A peak switch current	4 x 4 mm QFN-20
A4491	3 x Buck	4.5 to 23	Each output rated at 2.2 A peak switch current	4 x 4 mm QFN-20
A4492	3 x Buck	4.5 to 34	Each output rated at 2.2 A peak switch current	4 x 4 mm QFN-20
A8450K	Internal Buck + 4 LDO	6 to 45	1.2 V to 3.3 V @ 200 mA, 3.3 V @ 200 mA, 2 x 5 V @200 mA	SOIC-24
A8600K	Four Buck Regulators plus two hi-side switches	4.4 to 40	2.5 A peak for regulators 1-3 4 A peak for controller 4 (all thermally limited)	QFP-48
A8601K	Internal Boost +3x LDO +2x Charge Pump	4 to 5.5	DVDD: 2.4 to (Vin - 0.6)V @ 50 mA VGH: 2.4 to 26 V @ 14 mA AVDD: 2.4 to 14.8 V @ 200 mA (incl VCOM) VCOM: 2.9 to 6.8 V, VGH: 2.4 to 26 V @ 14 mA VGL: -12.85 to -5 V @ 14 mA *	eTSSOP-28
A8651K	2 x Buck	2.5 to 5.5	Dual 2 A	eTSSOP-20

Note: "K" suffix denotes automotive grade product

*Typical voltage rails needed when powering LCD displays



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