

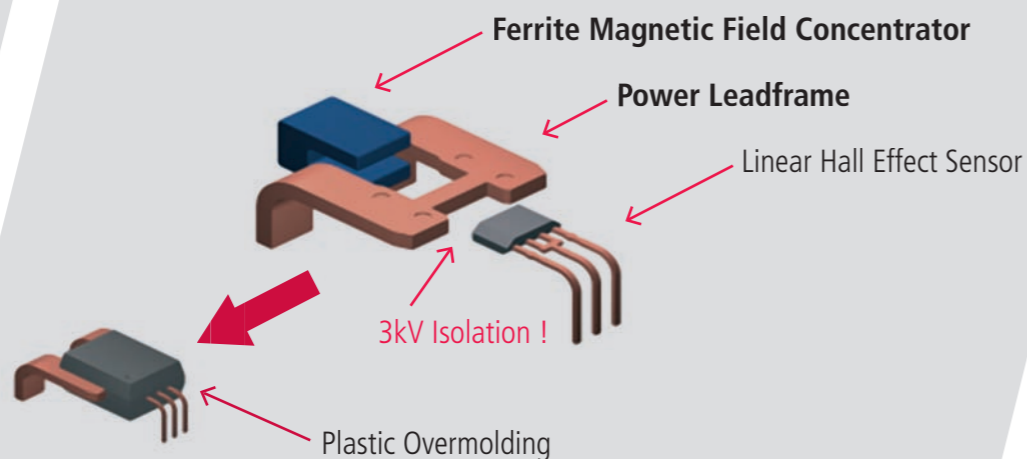
ALLEGRO PRODUCT SELECTOR

CURRENT SENSORS

ALLEGRO® UNI- OR BIDIRECTIONAL CURRENT SENSORS OFFER A UNIQUE SOLUTION

KEY FEATURES

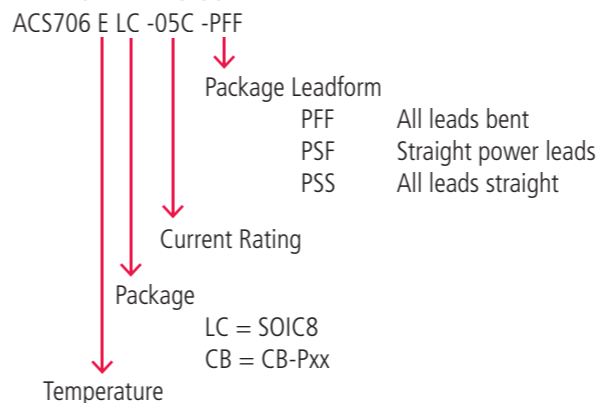
- Much smaller package size vs other solutions
- Isolated current conductive power leads
- Extremely low power loss: typ 100µOhm primary path resistance
- -50A to 200A operating range
- 50Khz bandwidth
- Single +5V supply



Current Sensors							
Type	P/N	Measurement Range	Isolation Voltage (V)	Bandwidth (kHz)	Temp Ranges	Packages	Comments
Bidirectional	ACS706	±5 A to 20 A	1600	50	E	SOIC8	
Bidirectional	ACS752	±50 A to 100 A	3000	50	S	CA	Higher temp ranges available on request
Bidirectional	ACS754	±50 A to 200 A	3000	35	S, K, L	CB	Higher accuracy than ACS752
Unidirectional	ACS755	±50 A to 200 A	3000	35	S, K, L	CB	Unidirectional version of the ACS754

Products highlighted in RED = focus products

PARTNUMBERING GUIDE



Temperature ranges:
Valid for all products

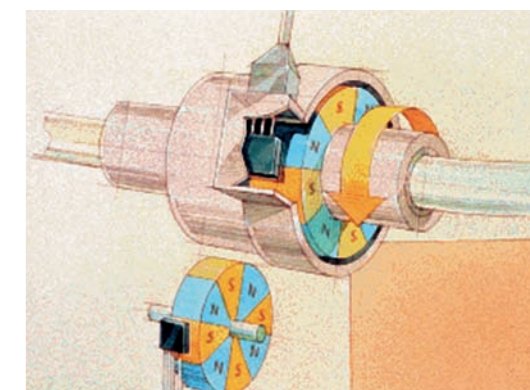
- S -20 to +85°C
- E -40 to +85°C
- K -40 to +125°C
- L -40 to +150°C

HALL EFFECT SENSORS

The unique Hall element geometries and low-offset amplifiers help to minimize noise and to reduce the residual offset voltage normally caused by device overmolding, temperature excursions and thermal stress. A high degree of reliability is offered, due to high stress resistance, 7kV ESD rating and the ability to withstand degradation caused by EMC.

KEY FEATURES

- Very stable specifications over the full temperature range
- Low Noise
- µPower operation (15µW @ 2,75V) on A139x
- Fast power-on time



Linear Hall-Effect Sensors							
P/N	Supply Voltage (V)	Quiescent Output (V)	Typical Sensitivity (mV/G)	Output Bandwidth (kHz)	Temp Ranges	Packages	Comments
A1301	4.5 to 6.0	Typ 50% Vcc	2.50	20	E, K	LH, LT, UA	Continuous-time
A1302	4.5 to 6.0	Typ 50% Vcc	1.30	20	E, K	LH, LT, UA	Continuous-time
A1321	4.5 to 5.5	Typ 50% Vcc	5.00	30	E, L	LH, UA	Chopper-stabilized
A1322	4.5 to 5.5	Typ 50% Vcc	3.13	30	E, L	LH, UA	Chopper-stabilized
A1323	4.5 to 5.5	Typ 50% Vcc	2.50	30	E, L	LH, UA	Chopper-stabilized
A1373	4.5 to 5.5	0.7 to 4.5 (Programmable)	1.25 to 11.25 (Programmable)	2.5	E, L	KB	Chopper-stabilized
A1374	4.5 to 5.5	0.7 to 4.5 (Programmable)	1.25 to 11.25 (Programmable)	20	E, L	KB	Chopper-stabilized
A1391	2.5 to 3.5	Typ 50% Vref	1.25	10	S	EH	Chopper-stabilized, µPower
A1392	2.5 to 3.5	Typ 50% Vref	2.50	10	S	EH	Chopper-stabilized, µPower
A1393	2.5 to 3.5	Typ 50% Vref	5	10	S	EH	Chopper-stabilized, µPower
A1395	2.5 to 3.5	Typ 50% Vref	10	10	S	EH	Chopper-stabilized, µPower

Unipolar Hall-Effect Digital Switches							
P/N	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temp Range	Packages	Output	Replaces/ Comments
A1101	30 to 175	10 to 140	20 to 80	E, L	LH, UA	Open Collector	A3141
A1102	115 to 245	60 to 190	30 to 80	E, L	LH, UA	Open Collector	A3142
A1103	205 to 355	150 to 300	30 to 80	E, L	LH, UA	Open Collector	A3143
A1104	35 to 450	25 to 430	>20	E, L	LH, UA	Open Collector	A3144
A1106	260 to 430	160 to 330	70 to 140	E, L	LT, UA	Open Collector	A3121, A3122, A3123
A1140	<115	>45	5 to 30	E, L	LH, UA	Current Source	A3161 / Output High without magnetic field
A1142	<115	>45	5 to 30	E, L	LH, UA	Current Source	A3361 / Output High without magnetic field
A1143	<115	>45	5 to 30	E, L	LH, UA	Current Source	A3163, A3362 / Output Low without magnetic field
A1145	20 to 60	10 to 55	5 to 30	E, L	LH, UA	Current Source	
A1146	20 to 60	10 to 55	5 to 30	E, L	LH, UA	Current Source	
A1147	20 to 80	10 to 60	5 to 30	E, L	LH, UA	Current Source	
A1148	20 to 80	10 to 60	5 to 30	E, L	LH, UA	Current Source	
A1180	60 to 200		5 to 30	E, L	LH, UA	Current Source	
A1181	60 to 200		5 to 30	E, L	LH, UA	Current Source	
A1182	60 to 200		5 to 30	E, L	LH, UA	Current Source	
A1183	60 to 200		5 to 30	E, L	LH, UA	Current Source	
A1184	300 to 600		5 to 30	E, L	LH, UA	Current Source	
A1185	10 to 60		5 to 30	E, L	LH, UA	Current Source	
A1186	10 to 60		5 to 30	E, L	LH, UA	Current Source	
A3240	<50 (typ 35)	>5 (typ 25)	Typ 10	E, L	LH, LT, UA	Open Collector	Chopper-stabilized
A3241	<120	>40	>10 Typ 25	E, L	LH, UA	Open Collector	Chopper-stabilized
A3242	<205	>105	>10 Typ 25	E, L	LH, UA	Open Collector	Chopper-stabilized
A3250	50 to 350	Typ 13 G below Bop	>5 Typ 13 <35	L	UA	Open Collector	Programmable switchpoints
A3251	50 to 350	Typ 13 G below Bop	>5 Typ 13 <35	L	UA	Open Collector	Programmable switchpoints

Bipolar Hall Effect Digital Switches							
P/N	Operate Point (G)	Release Point (G)	Hysteresis (g)	Temp Range	Packages	Replaces/ Comments	
A1201	-40 to 50	-50 to 40	5 to 55	E, L	LH, UA	A3134	
A1202	<75	>-75	>30	E, L	LH, UA	UGx3133	
A1203	<95	>-95	>30	E, L	LH, UA	UGx3132	
A1204	<150	>-150	>50	E, L	LH, UA		
A3230	-10 to 25	-25 to 10	5 to 25	E, L	LH, UA	Chopper-stabilized (bipolar switch)	

Hall-Effect Digital Latches							
P/N	Operate Point (G)	Release Point (G)	Hysteresis (g)	Temp Range	Packages	Output	Replaces/ Comments
A1210	25 to 150	-150 to -25	>50 (typ 180)	E, L	LH, UA	Open Collector	UGN3177
A1211	15 to 180	-180 to -15	>80 (typ 180)	E, L	LH, UA	Open Collector	UGN3175
A1212	50 to 175	-175 to -50	100 to 350	E, L	LH, UA	Open Collector	A3187
A1213	80 to 200	-200 to -80	160 to 400	E, L	LH, UA	Open Collector	A3188, A3189
A1214	140 to 300	-300 to -140	280 to 600	E, L	LH, UA	Open Collector	A3185
A1242	5 to 80	-80 to 5	40 to 110	E, L	LH, UA	Current Source	Two-wire operation
A3280	5 to 40	-40 to -5	Typ 45	E, L	LH, LT, UA	Open Collector	Chopper-stabilized
A3281	15 to 90	-90 to -15	Typ 100	E, L	LH, LT, UA	Open Collector	Chopper-stabilized
A3282	70 to 150	-70 to -150	>140 Typ 220	E, L	LH, UA	Open Collector	Chopper-stabilized
A3283	100 to 180	-180 to -100	Typ 300	E, L	LH, LT, UA	Open Collector	Chopper-stabilized

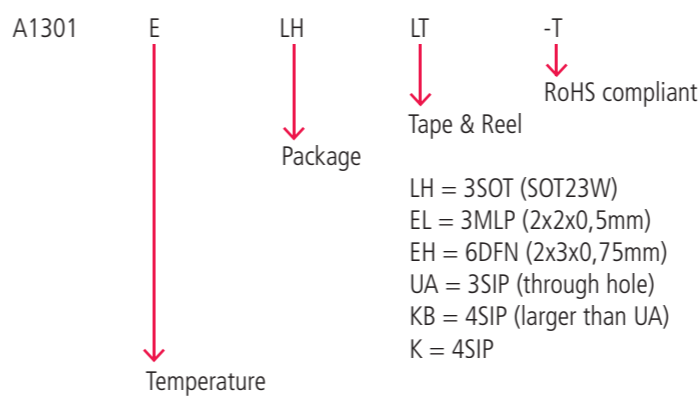
Omnipolar Hall-Effect Digital Switches								
P/N	Operating Voltage	Operate Point (G)	Release Point (G)	Hysteresis (G)	Temp Ranges	Packages	Supply Current	Comments
A3211	2.5 V to 3.5 V	±55	±10	Typ 7.7	E	EL, HE, LH	6 µA (typ)	Inverted output; operate at approx. 0.1% duty cycle
A3212	2.5 V to 3.5 V	±55	±10	Typ 7.7	E	EH, EH, LH, UA	6 µA (typ)	operate at approx. 0.1% duty cycle
A3213	2.4 V to 5.5 V	±70	±10	Typ 7.7	E, L	LH, UA	825 µA (max)	
A3214	2.4 V to 5.5 V	±70	±10	Typ 7.7	E, L	LH, UA	14 µA (max)	operate at approx. 0.1% duty cycle
A3245	3.6 V to 24 V	±55	±10	Typ 15	E, L	LH, UA	1.5 mA (typ)	Integrated voltage regulator

Omnipolar Hall-Effect Digital Switch Speed Sensors						
P/N	Operate Point (G)	Release Point (G)	Hysteresis (g)	Minimum Speed (Hz)	Temp Ranges	Packages
A1421	0 to 27.5	12.5 to 7.5	Typ 15	20	L	K
A1422	5 to 35	-35 to -5	Typ 30	20	L	K
A1423	10 to 100	-100 to -10	Typ 130	20	L	K
A1425	-11 to 11	-11 to 11	Typ 8.5	20	L	K

BLDC Motor Driver with Integrated Hall for Commutation						
P/N	Total Output Saturation (mV)	Number of Bridges	Output	Operate Point (G)	Package	Key Features
A1441	300 to 450	Full bridge	MOS	±75	MLP (2.00 x 2.00 x 0.50 mm)	Low-voltage operation Anti-stall algorithm Active braking function

Gear-Tooth Hall-Effect Speed Sensors (Includes IC and Magnet)									
P/N	Supply Voltage	Output Type	Power-On State	Specified Air Gap Range (>20 Hz)	Key Spec (see datasheet for details)	Minimum Speed	Target (gear) Pitch	Temp and Packages	
ATS616	3.5 to 24	3-wire	High (off)	0.4 to 2.50 mm	Timing accuracy	10 Hz	Coarse or fine	LSG	
ATS625	4 to 24	3-wire	High (off)	0.5 to 2.50 mm	Repeatability	Zero speed	Coarse or fine	LSG	
ATS643	4 to 24	2-wire	High (current)	0.5 to 2.50 mm	Duty cycle	Zero speed	Coarse or fine	LSH	
ATS642-I1	4 to 24	2-wire	High (current)	0.5 to 2.75 mm	Duty cycle	Zero speed	Coarse or fine	LSH	
ATS642-I2	4 to 24	2-wire	High (current)	0.5 to 2.75 mm	Duty cycle	Zero speed	Coarse or fine	LSH	
ATS651	4.3 to 24	2-wire	Low (current)	0.5 to 2.80 mm	Direction information	Zero speed	Coarse or fine	LSH	
ATS665	3.3 to 24	3-wire	High (off)	0.5 to 2.50 mm	Duty cycle	Zero speed	Coarse or fine	LSG	
ATS673 or ATS674	3.3 to 26.5	3-wire	TPO	0.5 to 2.50 mm	Timing accuracy	Zero speed	Coarse	LSE	

HALL EFFECT SENSORS PARTNUMBERING GUIDE



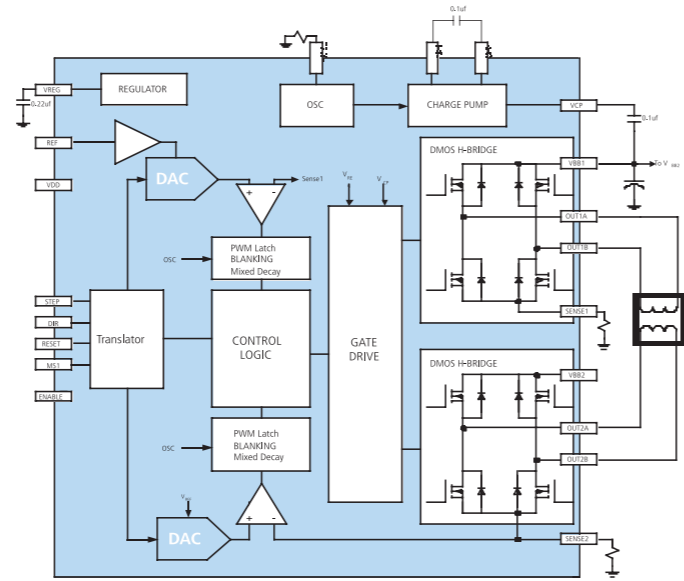
STEPPER MOTOR AND DC BRUSH MOTOR DRIVERS

The translator function block in front of the motor control logic provides a very easy way to drive a stepper motor. This interface is driven by two signals, STEP and DIRrection.

Microstepping has never been more straightforward. Program the degree of microstepping (MSx), select the rotation direction (DIR) and apply the correct number of pulses on STEP. If RESET is kept asserted, then the device goes into very low power sleep mode.

FURTHER IMPORTANT FEATURES ARE

- Top-off charge pump enables 100% duty cycle usage
- Mixed decay optimizes current control performance
- Full synchronous rectification reduces power dissipation
- Sleep mode <math><20\mu\text{A}</math>
- Low Ron = small & power efficient packages



DC Brush and Bipolar Stepper Motor Drivers (continued)									
P/N	Output Voltage Range	Output Current Range	Number of Bridges	Output	Interface	Logic Supply Voltage Range	Motor Type	Packages	Key Features
A3949	8 V to 36 V	2.8 A	Single full	DMOS	Parallel	Internally generated	DC brush	SOIC-16, e-TSSOP-16	Sleep, Internally generated logic supply
A3950	8 V to 36 V	2.8 A	Single full	DMOS	Parallel	Internally generated	DC brush	e-TSSOP-16, QFN 16	O C P, Fault output, Sleep, Internally generated logic supply
A3953	Vcc to 50 V	1.3 A	Single full	Bipolar	Parallel	3.0 V to 5.5 V	DC brush	DIP-16, SOIC-16	Sleep, Fast/slow decay, Brake, Satlington(R) sink outputs, PWM
A3955	Vcc to 50 V	1.5 A	Single full	Bipolar	Parallel	4.5 V to 5.5 V	MicroStepper 8 step	DIP-16, SOIC-16	3-Bit DAC, MD, Satlington(R) sink outputs, PWM
A3959	9.5 V to 50 V	3.0 A	Single full	DMOS	Parallel	4.5 V to 5.5 V	DC brush	DIP-24, SOIC24, eTSSOP-28	D T, MD, SR, Sleep, Brake, PWM
A3964	5 V to 30 V	800 mA	Dual full	Bipolar	Parallel	4.75 V to 5.25 V	Stepper	SOIC24	2.5 V reference, PWM
A3966	Vcc to 30 V	650 mA	Dual full	Bipolar	Parallel	4.75 V to 5.5 V	Stepper	SOIC16	Full, Half, Satlington(R) sink outputs, PWM
A3967	4.75 V to 30 V	750 mA	Dual full	Bipolar	Parallel (Translator)	3.0 V to 5.5 V	MicroStepper 8 step	SOIC-24	Two-wire (Step/DIR) interface, MD, Sleep, Satlington(R) sink outputs, PWM
A3968	Vcc to 30 V	650 mA	Dual full	Bipolar	Parallel	4.75 V to 5.5 V	DC brush	DIP-16, SOIC16	Brake function, Satlington(R) sink outputs, PWM
A3972	15 V to 50 V	1.5 A	Dual full	DMOS	Serial	4.5 V to 5.5 V	MicroStepper up to 32 step	DIP-24	6-Bit DAC, SPI, SR, MD, DT, Sleep, PWM

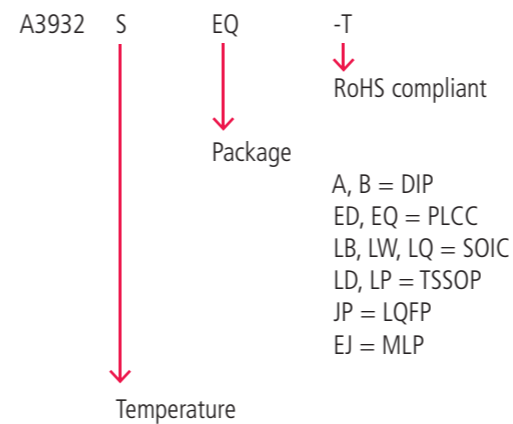
Products highlighted in RED = focus products

DC Brush and Bipolar Stepper Motor Drivers									
P/N	Output Voltage Range	Output Current Range	Number of Bridges	Output	Interface	Logic Supply Voltage Range	Motor Type	Packages	Key Features
A3973	15 V to 35 V	1.0 A	Dual full	DMOS	Serial	4.5 V to 5.5 V	MicroStepper up to 32 step	DIP-24, SOIC-24	6-Bit DAC, MD, SPI, SR, DT, Sleep, PWM
A3974	15 V to 50 V	1.5 A	Dual full	DMOS	Serial	4.5 V to 5.5 V	DC Brush	PLCC-44	MD, Sleep, SPI, SR, Brake function
A3977	8 V to 35 V	2.5 A	Dual full	DMOS		3.0 V to 5.5 V	MicroStepper 8 step	PLCC-44, e-TSS-OP-28	Two-wire (Step/DIR) interface, MD, Sleep, SR, PWM
A3979	8 V to 35 V	2.5 A	Dual full	DMOS	Parallel (Translator)	3.0 V to 5.5 V	MicroStepper 16 step	e-TSSOP-28	Two-wire (Step/DIR) interface, MD, Sleep, SR, PWM
A3982	8 V to 35 V	1.5 A	Dual full	DMOS	Parallel (Translator)	3.0 V to 5.5 V	Stepper full/half step	SOIC-24	Two-wire (Step/DIR) interface, MD, Sleep, SR, PWM, 2.0 A peak
A3983	8 V to 35 V	1.5 A	Dual full	DMOS	Parallel (Translator)	3.0 V to 5.5 V	MicroStepper 8 step	e-TSSOP-24, QFN-28	Two-wire (Step/DIR) interface, MD, Sleep, SR, PWM, 2.5 A peak
A3984	8 V to 35 V	1.5 A	Dual full	DMOS	Parallel (Translator)	3.0 V to 5.5 V	MicroStepper 16 step	e-TSSOP-24	Two-wire (Step/DIR) interface, MD, Sleep, SR, PWM, 2.0 A peak
A3986	12 V to 50 V	n/a	External Dual full	N-channel MOSFET drive	Parallel (Translator)	3.0 V to 5.5 V	MicroStepper 16 step	e-TSSOP-38	Two-wire (Step/DIR) interface, Sleep, DAC, PWM, SR, MD
A3987	8 V to 50 V	1.5 A	Dual full	DMOS	Parallel (Translator)	3.0 V to 5.5 V	MicroStepper 16 step	e-TSSOP-24	Two-wire (Step/DIR) interface, MD, Sleep, SR, PWM, OCP
A3992	15 V to 50 V	1.5 A	Dual full	DMOS	Serial	4.5 V to 5.5 V	MicroStepper up to 32 step	DIP-24, eTSSOP-24	6-Bit DAC, MD, SPI, SR, Sleep, PWM, OCP
UDN2916 A6219	10 V to 45 V	750 mA	Dual full	Bipolar	Parallel	4.75 V to 5.25 V	Stepper	DIP-24, SOIC-24, PLCC-44	Internal PWM current control, 2-Bit DAC
A3901	2.5 V to 5.5 V	400 mA	Dual full	MOSFET	Parallel	Internally generated	Stepper or DC brush	DFN-10	Full, Half, Brake, Sleep, 3.0 x 3.0 x 0.75 mm DFN

Products highlighted in RED = focus products

DC Brush and Bipolar Stepper Motor Drivers Automotive Grade									
P/N	Output Voltage Range	Output Current	Number of Bridges	Output	Interface	Logic Supply Voltage Range	Motor Type	Packages	Key Features
A3940K	7 V to 40 V	N/A	Single full	MOSFET gate driver	Parallel	Internally generated	DC Brush	SOIC-28 e-TSS-OP-28	Automotive temp, Charge pump for low-battery operation, Fault output
A3946K	7 V to 60 V	N/A	Half bridge	MOSFET gate driver	Parallel	Internally generated	DC Brush	SOIC-16 e-TSS-OP-16	Automotive temp, Charge pump for low-battery operation, Fault output, 60 V operation
A3980K	7 V to 50 V	1.0 A	Dual full	DMOS	Parallel (Translator)	3.0 V to 5.5 V	MicroStepper 16 Step	e-TSSOP-28	Protected output drivers, Two-wire (Step/DIR) interface, Fault reporting
UDQ2916	10 V to 45 V	750 mA	Dual full	Bipolar	Parallel	4.75 V to 5.25 V	Stepper	DIP-24 SOIC-24 PLCC-44	Internal PWM current control, Two-bit DAC

MOTOR DRIVERS PARTNUMBERING GUIDE



Temperature ranges: Valid for all products

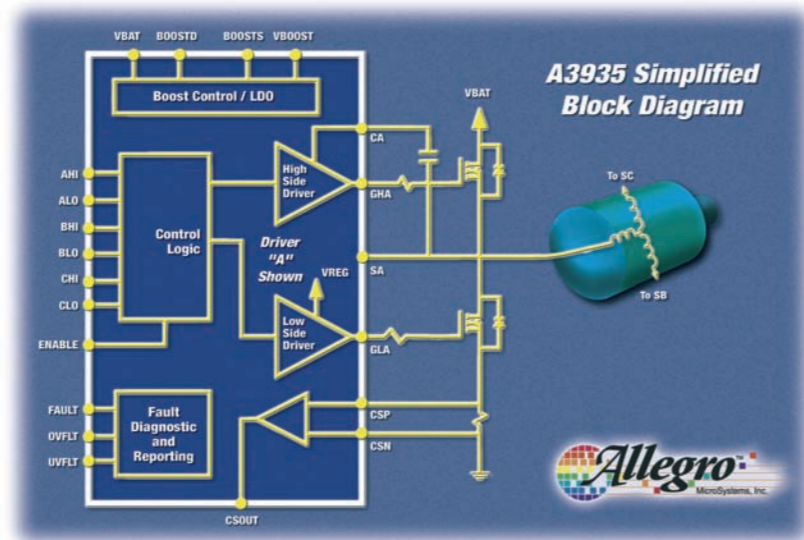
S	-20 to +85°C
E	-40 to +85°C
K	-40 to +125°C
L	-40 to +150°C

POWER INTEGRATED CIRCUITS

3PHASE BLDC MOTOR DRIVERS

FEATURES

- Wide voltage and temperature range
- Integrated current sense amplifier
- Integrated Hall commutation logic
- Coast, brake, soft brake functions



Three-Phase Brushless DC Motor Drivers									
P/N	Output Voltage Range	Output Current	Number of Bridges	Output	Interface	Logic Supply Voltage Range	Motor Type	Packages	Key Features
A3932	12 V to 50 V	N/A	Three half bridges	MOSFET gate driver	Parallel	Internally generated	Three-phase brushless	PLCC-32	SR, TACH, Fault output, Power MOSFET protection, Brake, PWM
A3936	9 V to 50 V	3.0 A	Three half bridges	DMOS	Parallel	3.0 V to 5.5 V	Three-phase brushless	PLCC-44	Hall commutation logic, Sleep, SR, MD, Brake, Tach, PWM
A3938	12 V to 50 V	N/A	Three gate drivers	MOSFET gate driver	Parallel	Internally generated	Three-phase brushless	TSSOP-38	SR, Fault output, Power MOSFET protection, Power loss brake, PWM
A8904	4 V to 14 V	1.2 A	Three half bridges	DMOS	Serial	4.5 V to 5.5 V	Three-phase brushless	SOIC-24, e-TSSOP-28	Sensorless commutation, FLL Speed control, Linear current control

Three-Phase Brushless DC Motor Drivers - Automotive Grade									
P/N Output	Voltage Range	Output Current	Number of Bridges	Output	Interface	Logic Supply Voltage Range	Motor Type Packages	Key Features	
A3930/31 K	7 V to 40 V	N/A	Three half bridges	DMOS	Hall-based state machine	Internally generated	Three-phase brushless e-LQFP-48	Hall commutation logic, Sleep, SR, MD, Brake, Tach, PWM, Fault output, Prepositioning state (A3931 only)	
A3935K	7 V to 40 V	N/A	Three half bridges	DMOS	Parallel	4.75 V to 5.25 V	Three-phase brushless QSOP-36 e-LQFP-48	Automotive temp, Boost converter for low-battery operation, Fault output	

POWER INTEGRATED CIRCUITS

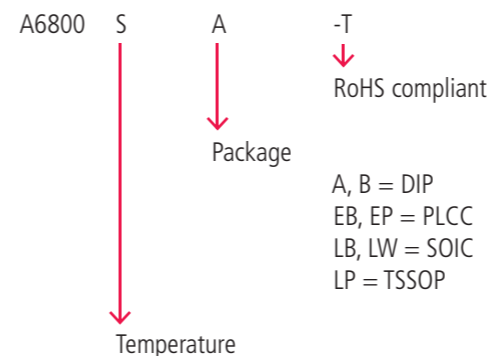
DRIVER FEATURES

- 20ns staggered output delay function for improved ground current spikes
- High reliability (automotive grade)
- Improved EMI performance, thermal shutdown, under voltage lockout, ...

Relay/Solenoid Drivers										
P/N		Maximum Output Voltage (V)	Maximum Output Current (mA)	Number of Outputs	Sink/Source	Latched	Serial in	Packages	Comments	
A6800	Relay/Solenoid	50	350	4	Sink	Yes	No	DIP-14, SOIC-14		
A6801	Relay/Solenoid	50	350	8	Sink	Yes	No	DIP-22, SOIC-24, PLCC-28		
A6841	Relay/Solenoid	50	350	8	Sink	Yes	Yes	DIP-18, SOIC-18, SOIC-20		
A2987-6	Relay/Solenoid	35	350	8	Source	No	No	DIP-20, SOIC-20		
A2981	Relay/Solenoid	50	350	8	Source	No	No	DIP-18, SOIC-18, SOIC-20		
A2982	Relay/Solenoid/LED	50	350	8	Source	No	No	DIP-18, SOIC-18, SOIC-20		
A6275	LED Driver	17	90	8	Sink	Yes	Yes	DIP-16, SOIC-18		
A6276	LED Driver	17	90	16	Sink	Yes	Yes	DIP-24, SOIC-24, eTSSOP-24		
A6278	LED Driver	17	90	8	Sink	Yes	Yes	DIP-16, SOIC-18, eTSSOP-16		
A6279	LED Driver	17	90	16	Sink	Yes	Yes	DIP-24, SOIC-24, eTSSOP-24, MLP-28		
A6833	LED Driver	30	100	32	Sink	Yes	Yes	PLCC-44		
A6832	LED Driver	40	100	32	Sink	Yes	Yes	PLCC-44		
A6280	LED Driver	17	150	3	Sink	Yes	Yes	DIP-16, MLP-16		
A6277	LED Driver	24	150	8	Sink	Yes	Yes	DIP-20, SOIC-20		
A6B273	LED Driver	50	150	8	Sink	Yes	No	SOIC-20		
A6B595	LED Driver	50	150	8	Sink	Yes	Yes	DIP-20, SOIC-20		
A6821	LED Driver	50	350	8	Sink	Yes	Yes	DIP-16, SOIC-16		
A6810	VF Display driver	60	25	10	Source	Yes	Yes	DIP-18, SOIC-20	Automotive Grade available	
A6812	VF Display driver	60	25	20	Source	Yes	Yes	SOIC-28, PLCC-28	Automotive Grade available	
A6818	VF Display driver	60	25	32	Source	Yes	Yes	PLCC-44	Automotive Grade available	
A6850	Two-channel sensor interface IC	40	25	2	Source	No	No	SOIC-8	Automotive Grade available	
A2550	Relay driver / Vreg	60	250	3x Relay 1 x 5 V Vreg	Sink	No	No	eTSSOP-16	Automotive Grade available	
A2557	Relay / Solenoid / LED	60	300	4	Sink	No	No	DIP-16, SOIC-16, PLCC-28	Automotive Grade available	
A2559	Relay / Solenoid / LED	60	600	4	Sink	No	No	DIP-16, PLCC-28, SOIC-16	Automotive Grade available	

Products highlighted in RED = focus products

DRIVERS (LED, RELAY, SOLENOID, VF DISPLAY) PARTNUMBERING GUIDE



Temperature ranges: Valid for all products

- S -20 to +85°C
- E -40 to +85°C
- K -40 to +125°C
- L -40 to +150°C

POWER MANAGEMENT ICs

The general purpose DC/DC converters from Allegro offer a very wide input and output voltage range (8-50Vin; 0,8-24Vout) and a high degree of integration. The LED/Backlight power converters have extensive features, like a very flexible dimming scheme (3 level, PWM or 11-level-serial dimming on the A8434/5), soft start, protection circuitry. Operating at 1MHz or higher results in very small external components

TRADITIONAL ALLEGRO PROCESS AND DESIGN ADVANTAGES ARE ALSO PREVALENT HERE, RESULTING IN:

- flat efficiency curves over the wide operating range (voltage and temperature)
- small, thermally efficient packages
- very low standby power consumption.

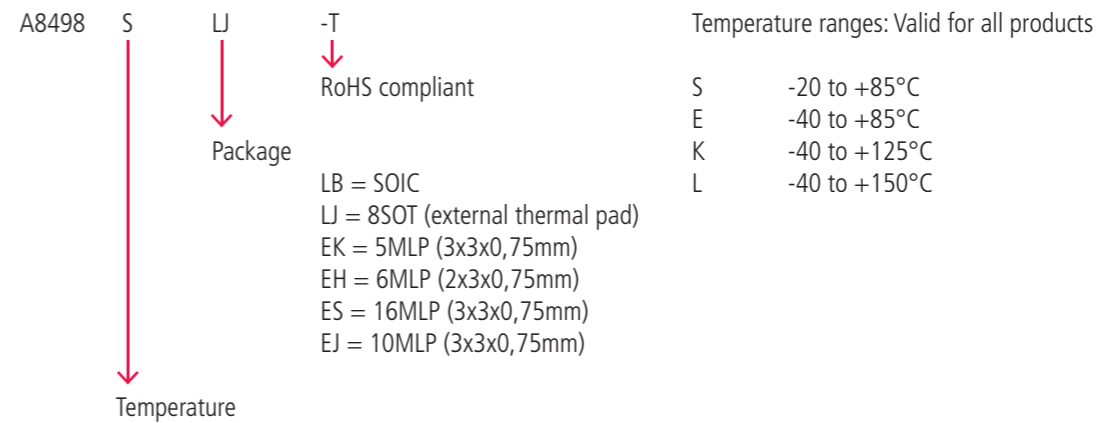
Power Management ICs Automotive Grade						
P/N	Description	Input Voltage	Number of Outputs	Output Ratings	Package	Key Features
A8450K	Multi-output regulator	Vin = 6 V to 45 V	Quad	1.2 V to 3.3 V @ 200 mA 3.3 V @ 200 mA 5 V @ 200 mA 5 V @ 200 mA	SOIC-24	Internal buck Regulator with two linear regulators (5 V, tracking) and two linear controllers (3.3 V and 1.8 V to 3.3 V adjustable), 135 C operation, Fault flag

Power Management ICs							
Applications	P/N	Topology	Input Voltage	Output	Output Current	Packages	Key Features
General Purpose	A8499	Buck	Vin = 8 V to 50 V	1.2 V to 24 V	2.2 A peak switch current	eSOIC-8	50 V maximum input voltage, Adjustable output voltage, High efficiency, Adjustable fixed off-time buck converter
	A8498	Buck	Vin = 8 V to 50 V	0.8 V to 24 V	5 A peak switch current	eSOIC-8	50 V maximum input voltage, Adjustable output voltage, High efficiency, Adjustable fixed off-time buck converter
	A8698	Buck	Vin = 8 V to 25 V	0.8 V to 20 V	5 A peak switch current	eSOIC-8	25 V maximum input voltage, Adjustable output voltage, High efficiency, Adjustable fixed off-time buck converter
Small Display Power	A8430	Boost	Vin = 2.5 V to 10 V	36 V max	300 mA peak switch current	3x3 mm MLP/TDFN 5L	WLED driver for LCD backlight 1.2 MHz boost converter with integrated 36 V switch in 0.75 mm high 3x3 mm package with TSOT-23-5 footprint
	A8431	Boost	Vin = 2.5 V to 10 V	32 V max	300 mA peak switch current	2x3 mm MLP/TDFN 6L	Same as A8430, plus 35 V overvoltage protection and 2x3 mm package
	A8434	Charge Pump	Vin = 2.7 V to 5.5 V	1-6 channels, 6 V max	lout max = 30 mA per channel	3x3 mm MLP/TQFN 16L	1 MHz six-channel charge pump, Adaptive control scheme (1x/1.5x/2x), 30 mA per channel, 0.5% channel current matching, Multiple dimming schemes, Soft start, OVP
	A8435	Charge Pump	Vin = 2.7 V to 5.5 V	1-4 channels, 6 V max	lout max = 30 mA per channel	3x3 mm MLP/TQFN 16L	1 MHz four-channel charge pump, Adaptive control scheme (1x/1.5x), 30 mA per channel, 0.5% channel current matching, Multiple dimming schemes, Softstart, OVP
	A8480	Boost	Vin = 2.5 V to 9 V	23 V max	1.5 A peak switch current	3x3 mm MLP/TDFN 10L	1.2 MHz boost for OLED supply, WLED backlight/flash, Output disconnect, Dimming, OVP, Pulse-by-pulse OCP, OTP, Softstart
	A8481	Boost	Vin = 2.5 V to 9 V	2 channels, 23 V max	1.5 A peak switch current	3x3 mm MLP/TDFN 10L	1.2 MHz dual output (simultaneous) boost for OLED supply, WLED backlight/flash, Output disconnect, Dimming, OVP, Pulse-by-pulse OCP, OTP, Softstart
	A8483	Boost	Vin = 2.5 V to 10 V	36 V max	350 mA peak switch current	3x3 mm MLP/TDFN 5L	1.2 MHz boost converter for OLED/LCD/VARACTOR/HDTV power, Extended (0.9 V to 18 V) input voltage with bias supply, 0.75 mm high 3x3 mm package with TSOT-23-5 footprint
A8530	Charge Pump	Vin = 2.7 V to 5.5 V	1-6 channels, for WLED Backlight and/or Flash/Torch	Total lout max = 350 mA DC	3x3 mm MLP/TQFN 16L	1 MHz six-channel charge pump, Adaptive control scheme (1x/1.5x/2x), 30 mA per 1-4 channel, 100 mA per 5-6 channel, 0.5% channel current matching, Multiple dimming schemes, Softstart, OVP	

Products highlighted in RED = focus products

Power Management ICs (continued)							
Applications	P/N	Topology	Input Voltage	Output	Output Current	Packages	Key Features
XENON Photoflash Cap Charger with IGBT Driver	A8436	Flyback	Vin = 3 V to 5.5 V (or 1.5 V min if Vcc supplied)	Adjustable	Three-level peak switch current: 1.0 A, 1.2 A, 1.4 A	3x3 mm MLP/TDFN 10L	Xenon flash capacitor charger with integrated 40 V switch, IGBT driver, and single-diode low-leakage feedback
	A8438	Flyback	Vin = 3 V to 5.5 V (or 1.5 V min if Vcc supplied)	Adjustable	Three-level peak switch current: 1.6 A, 1.8 A, 2.0 A	3x3 mm MLP/TDFN 10L	Same as A8436 but feedback is continuous or dual diode Low leakage also adds auto refresh function
	A8439	Flyback	Vin = 3 V to 5.5 V (or 1.5 V min if Vcc supplied)	Adjustable	Eight-level peak switch current: 0.15 A to 1.5 A	3x3 mm MLP/TDFN 10L	Same as A8436 but feedback is continuous or dual diode Low leakage also adds auto refresh function
LNB Regulators for Satellite STB Power	A8281	Buck/Linear	Vin = Vo+4.5 V to 48 V	Single, adjustable	lout max = 750 mA	SOIC-16	BUCK/LDO, Integrated FET, 22 kHz tone (DiSEqC compatible), Current limit, Fault flag
	A8282	Buck/Linear	Vin = Vo+4.5 V to 48 V	Single, adjustable	lout max = 750 mA	SOIC-24	Same as A8281, plus selectable Vout 12 V, 13 V, 14 V or 18 V, 19 V, 20 V, 21 V
	A8285	Boost/Linear	Vin = 8 V to 16 V	Single, adjustable	lout max = 500 mA	SOIC-16	Boost/LDO, Integrated FET, 16 selectable output voltages from 12.7 V to 20.4 V, 12C interface, 22 kHz tone (DiSEqC compatible), Current limit, Fault flag
	A8287	Boost/Linear	Vin = 8 V to 16 V	Single, adjustable	lout max = 500 mA	SOIC-24	Same as A8285, plus 22 kHz tone detection
	A8290	Boost/Linear	Vin = 8 V to 16 V	Single, adjustable	lout 700 mA limited	5x5 mm MLP/QFN 28L (or SOIC-28)	Same as A8287, plus additional diagnostics, Integrated DiSEqC bypass FET, Tiny package option, and A8286 single-footprint option
	A8286	Boost/Linear	Vin = 8 V to 16 V	Dual, adjustable	lout 700 mA limited per channel	5x5 mm MLP/QFN 28L (or SOIC-28)	Same as A8290 (less Bypass FET), with dual channel outputs and A8290 single-footprint option

POWER CONVERTORS PARTNUMBERING GUIDE



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