Selection Guide

Part Number	Packing*	Package
A4937KLPTR-A-T	4000 pieces per 13-in. reel	4.4 mm × 9.7 mm, 1.2 mm maximum height TSSOP with exposed thermal pad

*Contact Allegro™ for additional packing options.

Absolute Maximum Ratings*

Characteristic	Symbol	Notes	Rating	Unit
Load Supply Voltage	V_{BB}		–0.3 to 50	V
Logic Supply Voltage	V_{DD}		–0.3 to 6	V
Terminal VREG	V_{REG}		–0.3 to 16	V
Terminal CP1	V_{CP1}		–0.3 to 16	V
Terminal CP2	V_{CP2}		V_{CP1} – 0.3 to V_{REG} + 0.3	V
Logic Inputs	V_I	STRn, SCK, SDI, PWMH, PWML	–0.3 to 6	V
		RESETn; can be pulled to V_{BB} with >22 kΩ	–0.3 to 6	V
Logic Outputs	V_O	SDO	–0.3 to V_{DD} + 0.3	V
Terminal DIAG	V_{DIAG}		–0.3 to V_{DD} + 0.3	V
Terminal VBRG	V_{BRG}		–5 to 55	V
Terminals CA, CB, CC	V_{Cx}		–0.3 to V_{REG} + 50	V
Terminals GHA, GHB, GHC	V_{GHx}		V_{Cx} – 16 to V_{Cx} + 0.3	V
Terminals SA, SB, SC	V_{Sx}		V_{Cx} – 16 to V_{Cx} + 0.3	V
Terminals GLA, GLB, GLC	V_{GLx}		V_{REG} – 16 to 18	V
Terminal LSS	V_{LSS}		V_{REG} – 16 to 18	V
Ambient Operating Temperature Range	T_A	Limited by power dissipation	–40 to 150	°C
Maximum Continuous Junction Temperature	T_J(max)		150	°C
Transient Junction Temperature	T_{tJ}	Overtemperature event not exceeding 10s, lifetime duration not exceeding 10 hours, guaranteed by design characterization.	175	°C
Storage Temperature Range	T_{stg}		–55 to 150	°C

*With respect to GND. Ratings apply when no other circuit operating constraints are present.

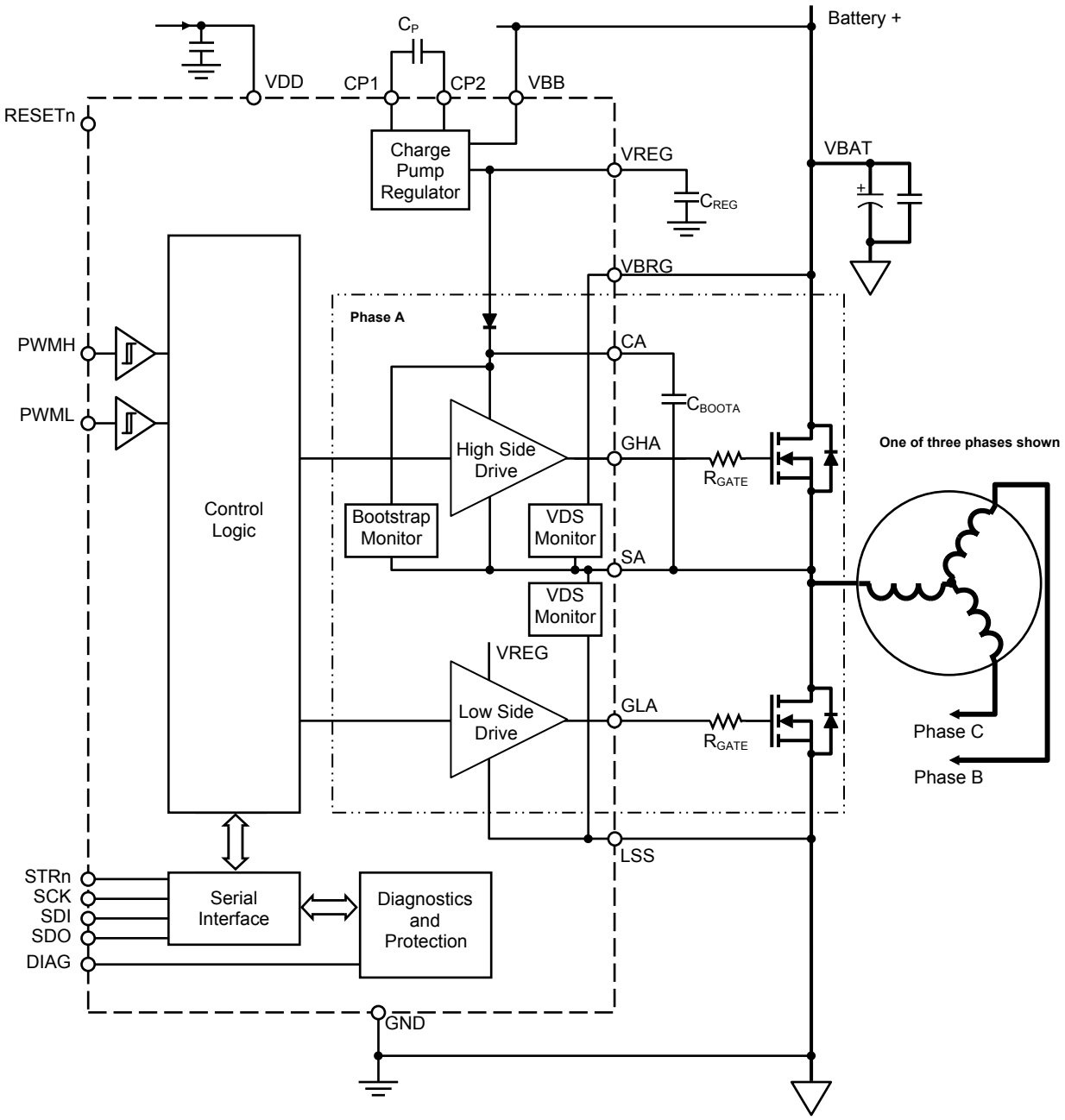
Thermal Characteristics may require derating at maximum conditions

Characteristic	Symbol	Test Conditions*	Value	Unit
Package Thermal Resistance (Junction to Ambient)	$R_{\theta JA}$	On 4-layer PCB based on JEDEC standard	28	ºC/W
		2-layer PCB with 3.8 in.^{2} of copper area each side	32	ºC/W
Package Thermal Resistance (Junction to Pad)	$R_{\theta JP}$		2	ºC/W

*Additional thermal information available on the Allegro website.

Allegro MicroSystems
955 Perimeter Road
Manchester, NH 03103-3353 U.S.A.
www.allegromicro.com

Functional Block Diagram



Allegro MicroSystems
955 Perimeter Road
Manchester, NH 03103-3353 U.S.A.
www.allegromicro.com

Revision Table

Number	Date	Description
2	January 29, 2019	Minor editorial updates
3	February 6, 2020	Minor editorial updates

Allegro MicroSystems
955 Perimeter Road
Manchester, NH 03103-3353 U.S.A.
www.allegromicro.com