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## A1201, A1202, A1203, A1204 Next-Generation Continuous-Time Bipolar Switch Family

### Replacement Device Characteristics Table

Device		A120x Characteristics					
		BOP		BRP		Hys	
Legacy	Replacement	Min	Max	Min	Max	Min	Max
A1201	<a href="#">A1205</a>	-40	50	-50	40	5	55
A1204	A1203	-	95	-95	-	30	-
UGx3133	A1202	-	75	-75	-	30	-
UGx3132	A1203	-	95	-95	-	30	-
A3134	<a href="#">A1205</a>	-40	50	-50	40	5	55

### Features and Benefits

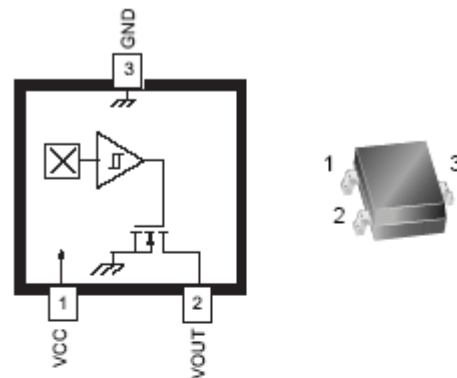
- Continuous-time operation
  - Fast power-on time
  - Low noise
- Stable operation over full operating temperature range
- Reverse battery protection
- Solid-state reliability
- Factory-programmed at end-of-line for optimum performance
- Robust EMC performance
- High ESD rating
- Regulator stability without a bypass capacitor



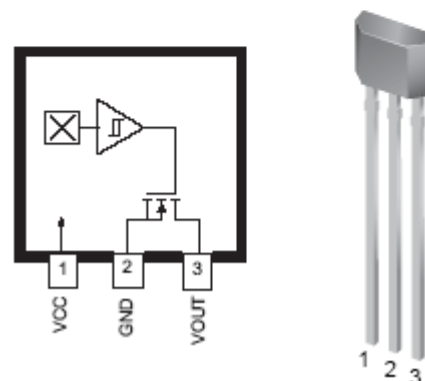
### Description

The Allegro A1201, A1202, A1203 and A1204 Hall-effect bipolar switches are next-generation replacements and extension of the popular Allegro A3134, A3133, and A3132 bipolar switch product line. The A1201 offers a 10 G improvement in operate point, and the A1204 supports a more extensive range of switchpoints. Overall, the A120x family, produced with BiCMOS technology, consists of

Package LH, 3-pin Surface Mount



Package UA, 3-pin SIP

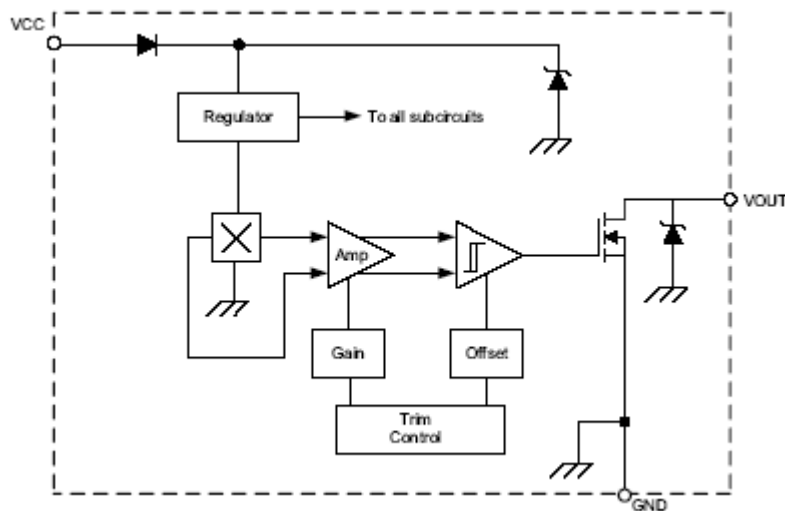


continuous-time devices that feature fast power-on time and low-noise operation. Device programming is performed after packaging, to ensure increased switchpoint accuracy by eliminating offsets that can be induced by package stress. Unique Hall element geometries and low-offset amplifiers help to minimize noise and to reduce the residual offset voltage normally caused by device overmolding, temperature excursions, and thermal stress.

The A120x Hall-effect bipolar switches include the following on a single silicon chip: voltage regulator, Hall-voltage generator, small-signal amplifier, Schmitt trigger, and NMOS output transistor. The integrated voltage regulator permits operation from 3.8 to 24 V. The extensive on-board protection circuitry makes possible a  $\pm 30$  V absolute maximum voltage rating for superior protection in automotive and motor commutation applications, without adding external components. All devices in the family are identical, except for magnetic switchpoints.

The small geometries of the BiCMOS process allow these devices to be provided in ultrasmall packages. The package styles available provide magnetically optimized solutions for most applications. Package LH is a SOT23W, a miniature low-profile surface-mount package, while package UA is a three-lead ultramini SIP for through-hole mounting. Each package is lead (Pb) free, with 100% matte tin plated leadframes.

### Functional Block Diagram



### Complete Part Numbers

Part Number	Package Type	RoHS Compliant	Part Composition/ RoHS Data	Temperature	Comments	Samples	Distributor
A1201ELHLT-T	3-lead SOT	Yes	<a href="#">view data</a>	-40 °C to 85 °C	<i>last-time buy</i>	samples not available	<a href="#">Check S</a>
A1201EUA-T	3-pin SIP	Yes	<a href="#">view data</a>	-40 °C to 85 °C	<i>last-time buy</i>	samples not available	<a href="#">Check S</a>
A1201LLHLT-T	3-lead SOT	Yes	<a href="#">view data</a>	-40 °C to 150 °C	<i>last-time buy</i>	samples not available	<a href="#">Check S</a>
A1201LUA-T	3-pin SIP	Yes	<a href="#">view data</a>	-40 °C to 150 °C	<i>last-time buy</i>	samples not available	<a href="#">Check S</a>
A1202ELHLT-T	3-lead SOT	Yes	<a href="#">view data</a>	-40 °C to 85 °C	<i>not for new design</i>	samples not available	<a href="#">Check S</a>
A1202EUA-T	3-pin SIP	Yes	<a href="#">view data</a>	-40 °C to 85 °C	<i>not for new design</i>	samples not available	<a href="#">Check S</a>
A1202LLHLT-T	3-lead SOT	Yes	<a href="#">view data</a>	-40 °C to 150 °C		<a href="#">Request Sample</a>	<a href="#">Check S</a>
A1202LUA-T	3-pin SIP	Yes	<a href="#">view data</a>	-40 °C to 150 °C		<a href="#">Request Sample</a>	<a href="#">Check S</a>

A1203ELHLT-T	3-lead SOT	Yes	<a href="#">view data</a>	-40 °C to 85 °C	<a href="#">Request Sample</a>	<a href="#">Check S</a>
A1203EUA-T	3-pin SIP	Yes	<a href="#">view data</a>	-40 °C to 85 °C	<a href="#">Request Sample</a>	<a href="#">Check S</a>
A1203LLHLT-T	3-lead SOT	Yes	<a href="#">view data</a>	-40 °C to 150 °C	<a href="#">Request Sample</a>	<a href="#">Check S</a>
A1203LUA-T	3-pin SIP	Yes	<a href="#">view data</a>	-40 °C to 150 °C	<a href="#">Request Sample</a>	<a href="#">Check S</a>

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