

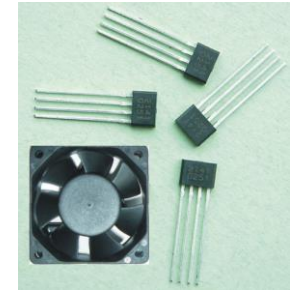
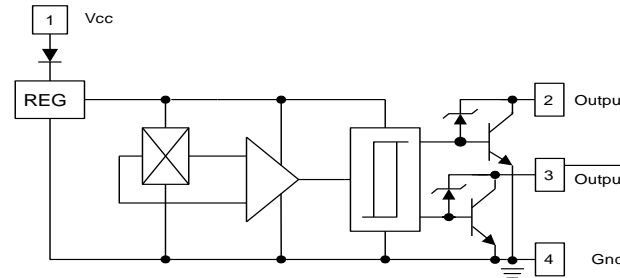
## CCA1200 Hall Effect Latch IC with Complementary Output Driver

### FEATURES

- Optimized for brushless DC motors
- Wide supply voltage range from 3.2 V to 20 V
- Integrated diode for reverse polarity protection
- High output current up to 300mA for driving high loads
- Consistent parameter distribution
- High reliability 4 pin SIP-4L package

### GENERAL DESCRIPTION

CCA1200 is a monolithic bipolar Hall effect latch IC with integrated Hall sensor and complementary output driver, designed for driving brushless DC motors. The device includes a protection diode for wrong chip reverse power connection, a temperature compensated bandgap regulator for wide range supply voltage application and a Hall sensor. The two complementary open-collector drivers supply the motor coils with large current up to 300mA. A power reset starts and restarts the device and automatic lock shutdown avoids coil burning after rotor-lock. CCA1200 is specified over a temperature range from -20°C to 85°C.



### ABSOLUTE MAXIMUM RATINGS $T_a = 25^\circ\text{C}^*$

Characteristic	Symbol	Rating	Unit
Supply Voltage	$V_{cc}$	20	V
Reverse Vcc Polarity Voltage	$V_{rcc}$	- 20	V
Output ON Current --- Continuous Hold	$I_{out}$	300 400	mA
Peak (Start Up)		700	
Package Power Dissipation	$P_d$	500	mW
Storage Temperature Range	$T_s$	-65 to 150	°C

### ELECTRICAL CHARACTERISTICS

DC Operating Parameters  $T_a=25^\circ\text{C}$  to  $85^\circ\text{C}$ ,  $V_{cc}=3.2\text{V}$  to  $20\text{V}^*$

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	$V_{cc}$	Operating range	3.2	--	20	V
Output Saturation Voltage	$V_{sat}$	$V_{cc}=14\text{V}$ , $I_{out}=300\text{mA}$	---	0.3	0.6	V
Supply Current	$I_{cc}$	$V_{cc}=20\text{V}$ , Output Open	---	18	25	mA
Output Leakage Current	$I_{Leak}$	$V_{cc}=14\text{V}$ , $V_{out}=14\text{V}$	---	<2	10	$\mu\text{A}$
Output Rise Time	$T_r$	$V_{cc}=14\text{V}$ , $R_L=820\ \Omega$ $C_L=20\text{pF}$	---	3.0	10	$\mu\text{s}$
Output Fall Time	$T_f$		---	0.3	1.5	$\mu\text{s}$
Switch Time Differential	$\Delta T$		---	3.0	10	$\mu\text{s}$

### MAGNETIC CHARACTERISTICS $T_a=25^\circ\text{C}$

Characteristic	Rank	Symbol	Min.	Typ.	Max.	Unit
Operate Point	A	$B_{op}$	---	---	60	G
	B	$B_{op}$	---	---	90	G
Release Point	A	$B_{rp}$	-60	---	---	G
	B	$B_{rp}$	-90	---	---	G
Hysteresis	A	$B_{hys}$	---	70	75	G
	B	$B_{hys}$	---	---	---	G

\*) unless otherwise specified

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