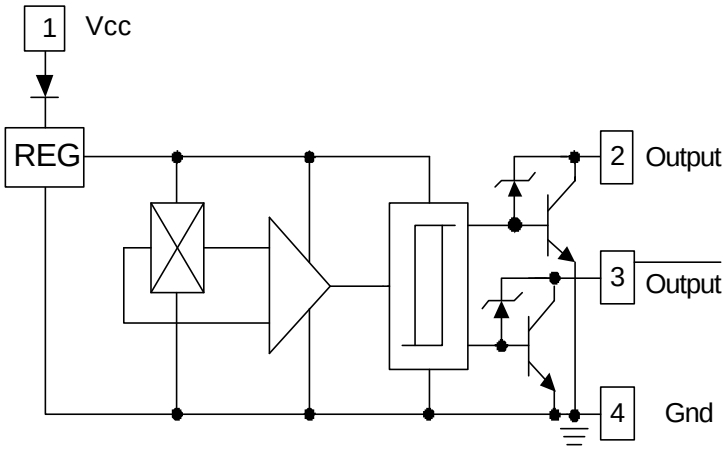
Hall Effect Latch IC with Complementary Output Driver

FEATURES

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

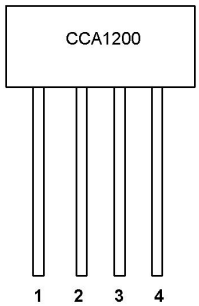


GENERAL DESCRIPTION

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.

PIN Descriptions

Pin	Name	P/I/O	escription
1	Vcc	P	Positive Power Supply
2	DO	O	Output
3	DOB	O	OutputB
4	Vss	P	Ground



ABSOLUTE MAXIMUM RATINGS Ta = 25°C (unless otherwise specified)

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

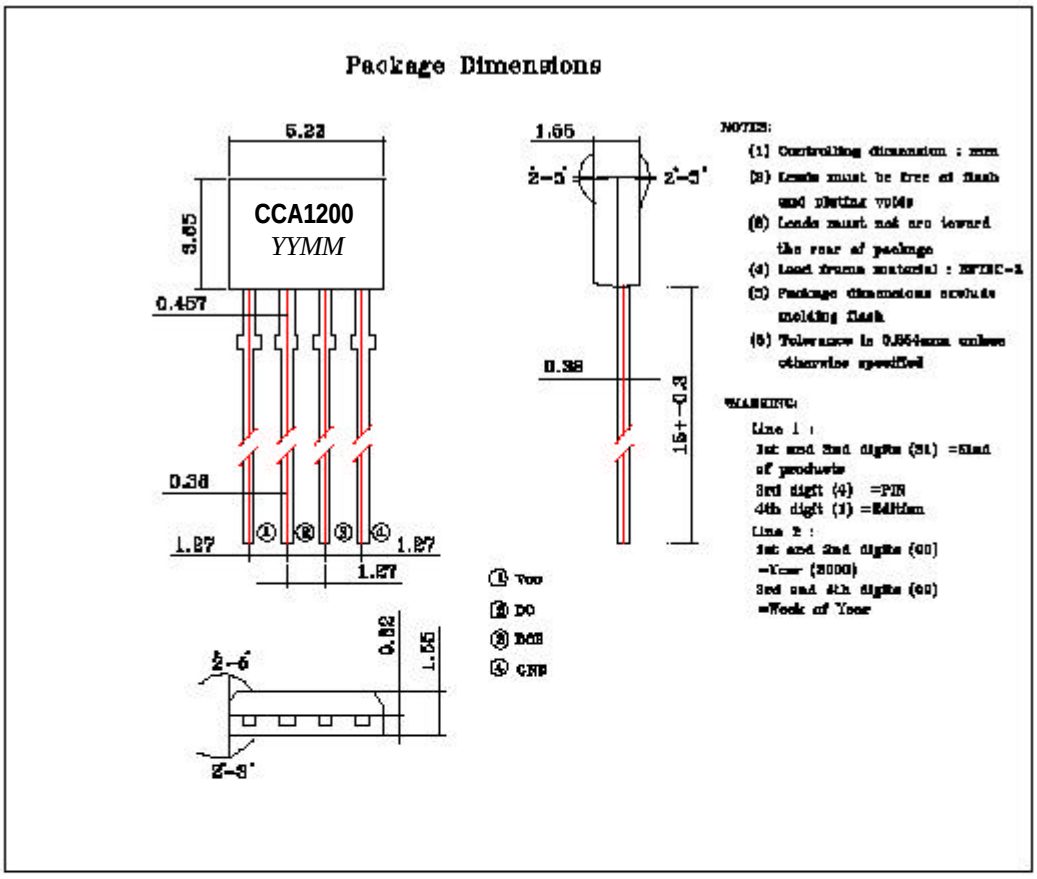
ELECTRICAL CHARACTERISTICS

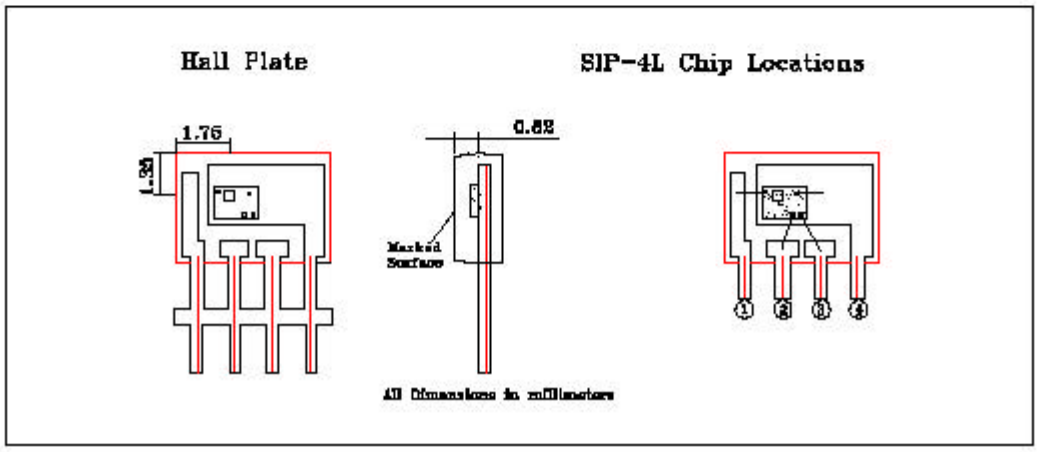
DC Operating Parameters T_a=25°C to 85°C, V_{cc} =3.2V to 20V (unless otherwise specified)

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

MAGNETIC CHARACTERISTICS T_a = 25°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





REVISION HISTORY

Revision	Date	Autor	Item
1.0	09.06.2004	Ro	

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