

SG710/710C

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The SG710/710C are high-speed voltage comparators designed for use in level detection, low-level sensing and memory applications. Inherent component matching provides low offset voltage and drift as well as high accuracy and fast response. The output of the comparator is compatible with all forms of saturating logic.

The SG711/SG711C are dual voltage comparators designed for use in core-memory sense amplifier applications, pulse height detectors, and as a double-ended limit sensor for automatic go/no-go test equipment. Inherent component matching provides low offset voltage and drift as well as high accuracy and fast response. With an output compatible with all forms of saturation logic, the device also has provisions for independent strobing of each comparator channel.

PARAMETERS*	710	710C	711 ³	711C ³	UNITS
Operating Temperature Range	-55 to +125	0 to +70	-55 to +125	0 to +70	°C
Package Types	T, J, N		T, J, N		-
Supply Voltage (max)	+14.0, -7.0	+14.0, -7.0	+14.0, -7.0	+14.0, -7.0	V
Input Offset Voltage ²	2.0 (3.0)	5.0 (6.5)	3.5 (6.0)	5.0 (10)	mV
Input Offset Current ²	3.0 (7.0)	5.0 (7.5)	10 (20)	15 (25)	μA
Input Bias Current	20 (45)	25 (40)	75 (150)	100 (150)	μA
Voltage Gain	1250 (1000)	1000 (800)	750 (500)	700 (500)	V/V
Response Time ¹ (typ)	40 (typ)	40 (typ)	60 (max)	40 (typ)	nS
Differential Input Voltage	±5.0	±5.0	±5.0	±5.0	V
Output Sink Current	2.0 (3.5)	1.6 (0.5)	0.5	0.5	mA
Positive Output Voltage	2.5/4.0	2.5/4.0	2.5/5.0	2.5/5.0	V
Negative Output Voltage	-1.0/0	-1.0/0	-1.0/0	-1.0/0	V
Input Common Mode Range	±5.0	±5.0	±5.0	±5.0	V
Common Mode Rejection Ratio	80	70	-	-	dB
Power Supply Current	9.0	9.0	10.0	7.2 (typ)	mA
Power Consumption	150	150	150	150	mW
Strobe Current	-	-	2.5	2.5	mA

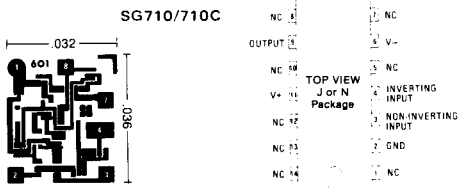
*Parameters apply over supply voltage range and are min./max. limits either at $T_A = 25^\circ\text{C}$ (or over operating temperature range if enclosed in parentheses), unless otherwise indicated.

¹The response time specified is for a 100mV input step with 5mV overdrive.

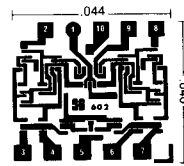
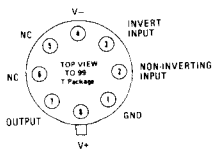
²The offset voltages and offset currents given are the maximum values required to drive the output to 1.4Vdc at 25°C, 1.8Vdc at 0° or -55°C, 1.0Vdc at +70° or 125°C.

³Each comparator.

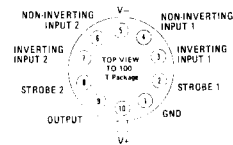
CONNECTION DIAGRAMS



SG710/710C Chip
(See T-package diagram for pad functions)



SG711/711C Chip
(See T-package diagram for pad functions)



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