

KA711/I

DUAL COMPARATOR

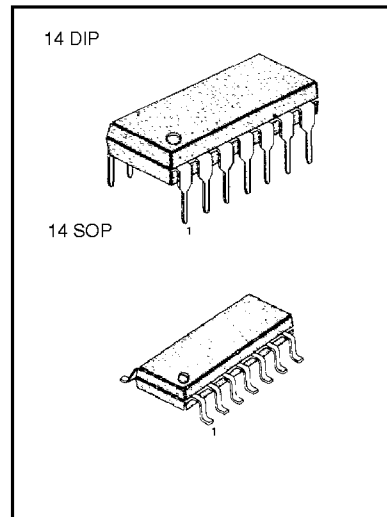
DUAL HIGH-SPEED DIFFERENTIAL COMPARATOR

The KA711/I contain two voltage comparators with the separate differential inputs, a common output and provision for strobing each side independently. The device features high accuracy, fast response, low offset voltage, a large input voltage range, low power consumption and compatibility with practically all integrated logic forms.

The KA711/I can be used as a sense amplifier for memories, and a dual comparator with OR'ed outputs is required, such as a double-ended limit detector.

FEATURES

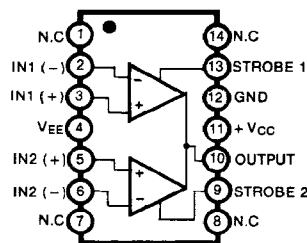
- Y Fast response time: 40ns (Typ)
- Y Output compatible with most TTL circuits
- Y Independent strobing of each comparator
- Y Low offset voltage



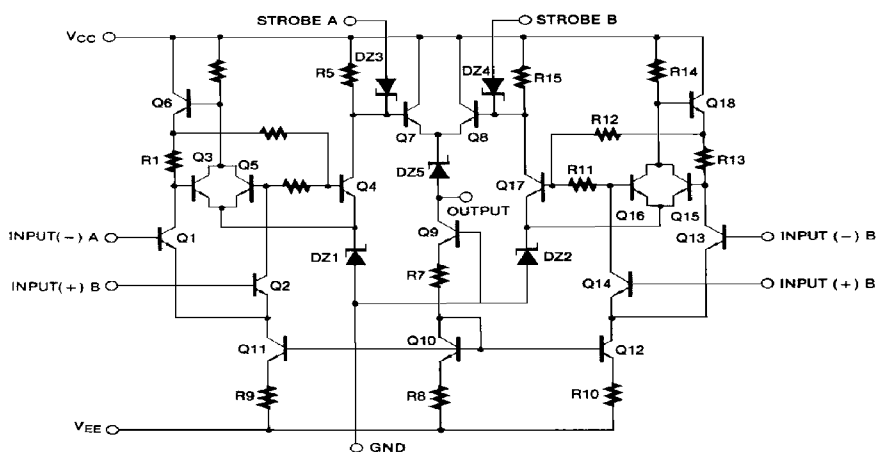
ORDERING INFORMATION

Device	Package	Operating Temperature
KA711	14 DIP	0 ~ + 70 °C
KA711D	14 SOP	
KA711I	14 DIP	-25 ~ + 85 °C
KA711ID	14 SOP	

BLOCK DIAGRAM



SCHEMATIC DIAGRAM



KA711/I

DUAL COMPARATOR

ABSOLUTE MAXIMUM RATINGS (T_A=25 °C)

Characteristic	Symbol	Value	Unit
Positive Supply Voltage	V _{CC}	+14	V
Negative Supply Voltage	V _{EE}	-7	V
Differential Input Voltage	V _{I(DIFF)}	±5	V
Input Voltage	V _I	±7	V
Strobe Voltage	V _{STR}	16	V
Peak Output Current	I _{O(P)}	10	mA
Continuous Total Power Dissipation	P _D	500	mW
Operating Temperature Range	T _A	-25 ~ +85	°C
Input Offset Voltage	V _{IO}	0.5 ~ 1.5	mV
Input Offset Current	I _{IO}	±25	µA
Input Bias Current	I _{BIAS}	25 ~ 75	µA
Large Signal Voltage Gain	G _V	750 ~ 1500	V/V
Input Voltage Range	V _{I(R)}	-7.0V ~ 5.0V	V
Differential Input Voltage Range	V _{I(DR)}	±5.0V	V
Output Resistance	R _O	200	Ω
Output Voltage (High)	V _{O(H)}	4.5 ~ 5.0	V
Output Voltage (Low)	V _{O(L)}	-1.0 ~ -0.5	V
Loaded Output High Level	V _{OH}	2.5 ~ 3.5	V
Strobed Output Level	V _{STR}	-1.0 ~ 0	V
Output Sink Current	I _{SINK}	0.5 ~ 0.8	mA
Positive Supply Current	I _{CC}	8.6	mA
Negative Supply Current	I _{EE}	3.9	mA
Strobe Current	I _{STR}	1.2 ~ 2.5	mA
Power Consumption	P _D	130 ~ 230	mW
Response Time	t _{RES}	40	ns
Strobe Release Time	T _{RE}	12	ns

ELECTRICAL CHARACTERISTICS

(V_{CC} = +12V, V_{EE} = -6V,T_A=25 °C, unless otherwise specified)

Note: 1. The response time specified is for a 100mV input step with 10mV overdrive

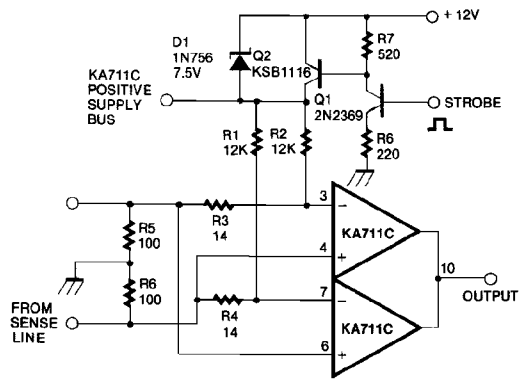
2. KA711: 0 °C ~ +70 °C

KA711I: -25 °C ~ +85 °C

3. The input offset voltage and input offset current are specified for a logic threshold voltage of 711I, 1.65V at -25 °C, 1.4V at +25 °C, 1.15V at +85 °C, for 711, 1.5V at 0 °C, 1.4V at +25 °C, 1.2V at +70 °C.

TYPICAL APPLICATIONS

* Fig. 1 Sense Amplifier With Supply Strobing for Reduced Power Consumption*



* Standby dissipation is about 40mW

Fig. 2 Double-Ended Limit Detector With Lamp Driver

