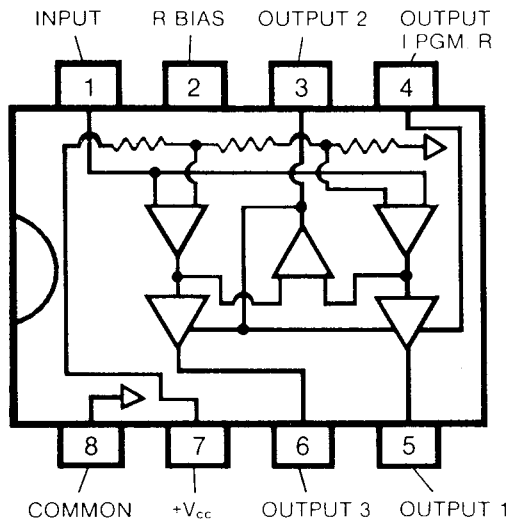


### TRI-OUTPUT WINDOW COMPARATOR

#### DESCRIPTION

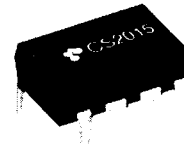
The CS2015 is a monolithic voltage operated window discriminator. Upper and lower thresholds are set by an internal voltage divider. When the input voltage exceeds the upper threshold, output 1 is energized. With an input voltage lower than the lower threshold, output 3 is energized. Output 2 is energized when the input is within the two thresholds.

The outputs are current regulated to operate LED indicators directly without limiting resistors. The output currents are programmed by a single resistor connected between Pin 4 and 8. Each of the currents is approximately equal to  $700/R_p$  milliamperes.



#### RECOMMENDED R BIAS VALUE

$V_{cc}$	$R(\Omega)$
2-3	0
3-6	15k
6-10	33k
10-15	47k
15-20	68k



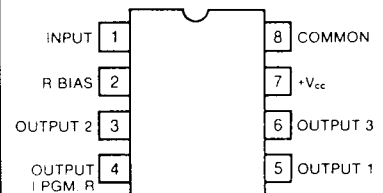
#### FEATURES:

- 2.5 to 20V power supply range
- On-chip LED drivers
- Programmable LED output currents
- Supply reversal protected

#### APPLICATIONS:

- Camera iris control (with CDS cell)
- Temperature monitor (with Thermistor)
- Instrumentation

#### PIN ASSIGNMENTS



(TOP VIEW)

**ABSOLUTE MAXIMUM RATINGS**

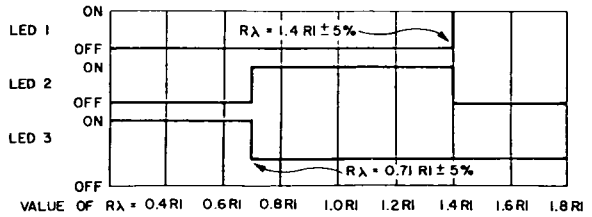
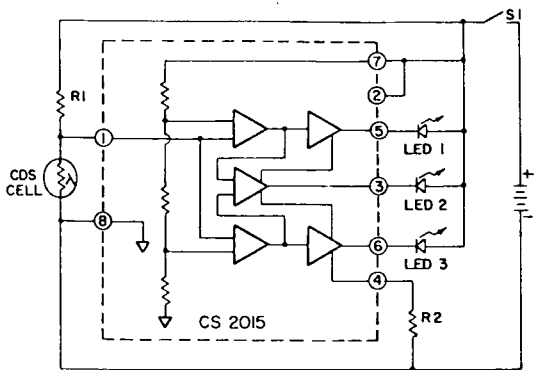
Power Supply Voltage	±20V	Output Current	50mA
Input Voltage	+V <sub>cc</sub> , -0.5V	Operating Temperature	-20°C to +70°C
Output Voltage	+V <sub>cc</sub> , -0.5V	Storage Temperature	-40°C to +125°C

**NOTE:** An external bias resistor, connected between Pins 2 and 7, is recommended for V<sub>cc</sub> values above 3V.

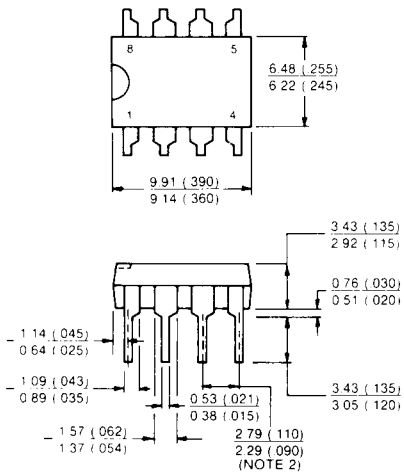
**ELECTRICAL CHARACTERISTICS** (V<sub>cc</sub> = 3V, T<sub>A</sub> = +25°C, R<sub>BIAS</sub> = 0, unless otherwise specified)

PARAMETER	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Lower Comparator Threshold		.395	.417	.438	XV <sub>cc</sub>
Upper Comparator Threshold		.554	.583	.613	XV <sub>cc</sub>
Input Current	V <sub>IN</sub> = .5V <sub>cc</sub>		0.1	0.3	μA
Output Current Programmable Range		0.1		20	mA
Output OFF Current	V <sub>O</sub> = V <sub>cc</sub>			10	μA
Supply Current	V <sub>IN</sub> = .5V <sub>cc</sub>		2.4	3	mA

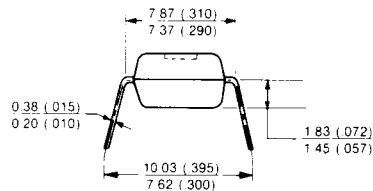
**TYPICAL APPLICATION CIRCUIT**



**MECHANICAL SPECIFICATIONS: 8 PIN PLASTIC**



- NOTES:**
- Dimensions are in millimeters. Those in parentheses are in inches.
  - Tolerances are non-accumulative.



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