**CS-180** 

## WINDOW COMPARATOR FOR MANUAL APERTURE

### **DESCRIPTION:**

The CS-180 is a monolithic integrated voltage operated window discriminator.

One output is energized when the input voltage exceeds the upper window limit. A second output is energized when the input voltage is less than the lower window limit.

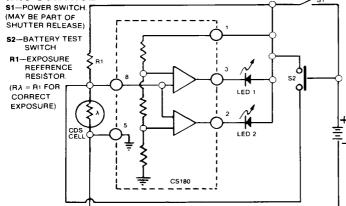
Both outputs are abruptly disabled, regardless of input condition, when Vcc falls below a predetermined level. This feature can be used as a battery tester in battery operated applications.

The outputs are current regulated to operate LED indicators directly without limiting resistors, even at VCC values that exceed the LED forward voltage by only 150 millivolts.

The IC will withstand reversal of the power supply up to the maximum rated voltage.

The CS-180 was designed specifically for manual aperture control in cameras, but can be utilized in many other applications when a bi-level voltage comparator is required.

# RECOMMENDED OPERATING CIRCUIT FOR CAMERA IRIS CONTROL



ELECTRICAL SPECIFICATIONS

NOTE: Vcc = 2.2 To 4.5V; Ta = 20°C; Unless Specified. All Voltages Referenced to Pin 5.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Lower Comparator Threshold	Output 2 Off On	.395	.417	.438	xVcc
Upper Comparator Threshold	Output 1 Off - On	.554	.583	.613	xVcc
Battery Test Threshold (VBC)	V8 = 0 or VCC	1.9	2.0	2.2	V
Batt. Test Threshold Temp. Coefficient			+.33		%/C
Input Current (I8)	V8 = 0.5 VCC		10	25	NΑ
Output On Current Iz and I3	V <sub>2</sub> , V <sub>3</sub> = .25 To VCC VCC ≥ VBC + .1V	8	16	25	mA
Output "Off" Currents	V8 = 0.5 VCC		1	50	PLA
Supply Current (I1)	V8 = 0.5 VCC			2.5	mA



## **ABSOLUTE MAXIMUM RATINGS**

VCC (V <sub>1</sub> ) 6.5 Volts
V Input (8)
V Out (V2, V3)
Operating Temperature20°C to +70°C
Storage Temperature40°C to +.25°C

R2-BATTERY TEST LOAD

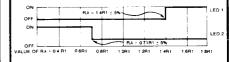
## **BATTERY TEST FEATURE:**

If VCc is less than 2.0V  $\pm$  0.1V at +20°C both LED's will be off, regardless of value of  $R\lambda$ 

### NOTE:

LED outputs are current limited to approximately 15mA.

## **CIRCUIT OPERATION:**



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