

C51B01W Photomultiplier Tube

The C51B01W is a 2" diameter, 10-stage circular cage, end-on photomultiplier designed for scintillation counting and other applications where high quantum efficiency, low dark current, good collection efficiency, and gain stability are of paramount importance.

Photocathode:

Spectral Response
 Wavelength of maximum response
 Window shape
 Window index of refraction @ 436 nm

Semitransparent Bialkali

See Figure 1

400 ± 50 nm

plano-plano, circular

1.523

Dynodes

CsSb, coated Circular Cage

Capacitance (anode to all electrodes)

4 pF

Operating position

Any

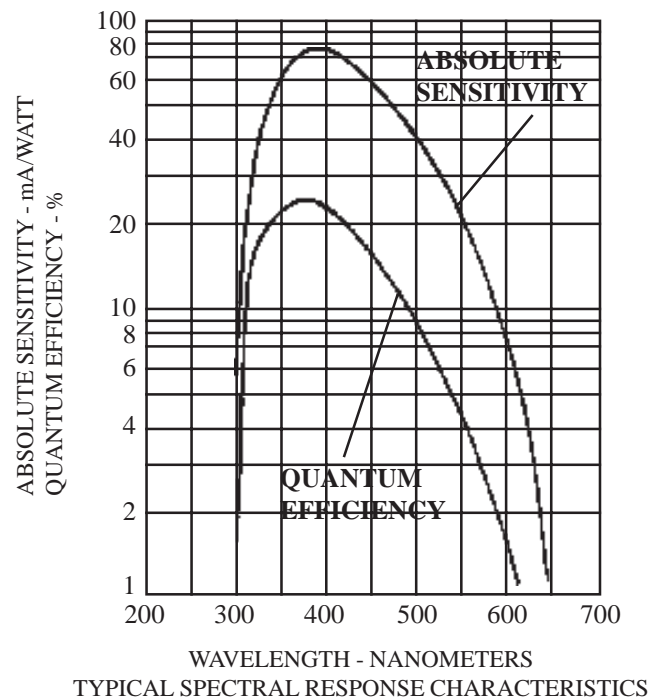
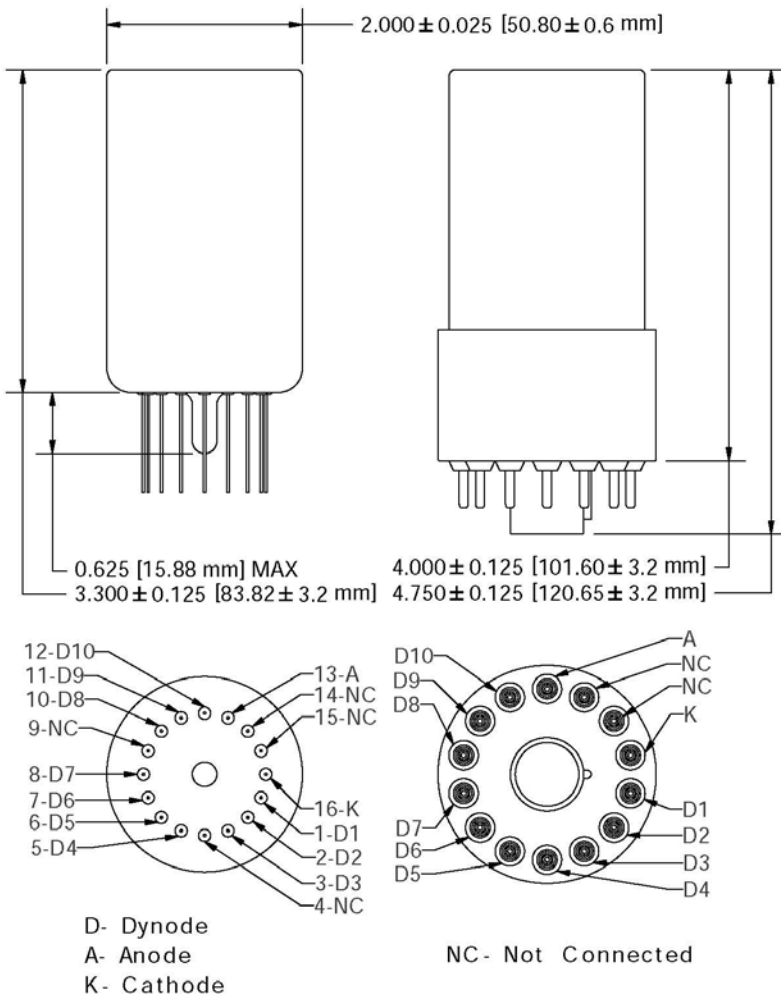


FIGURE 1

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ELECTRICAL OPERATING RATINGS

	MINIMUM	TYPICAL	MAXIMUM ⁽⁴⁾	UNITS
Cathode to dynode No. 1 voltage	40	150	300	VDC
Cathode to anode voltage			1500	VDC
Voltage between consecutive dynodes			250	VDC
Ambient storage temperature		23	60	°C
Anode current, average over 30 sec.		10		μA
Cathode current		0.2	0.3	μA
Cathode luminous sensitivity: ⁽¹⁾ With 2854° K tungsten source	50	70	90	μA/lm
With blue light source ⁽²⁾	5	10	13	μA/lm(B)
Quantum efficiency @ 420 nm		25		%
Cathode radiant sensitivity @ 420 nm		80		mA/W
Anode luminous sensitivity 900 VDC: With 2854° K tungsten source of 1×10^{-3} lm	10	20	40	A/lm
Current amplification @ 900 VDC		1×10^6		
Anode dark current ⁽³⁾ @ 22° C		< 10		nA
Plateau width @ 40 mV threshold (approx. 100 keV) with ¹³⁷ Cs source		180		Volts

(1) With 150 VDC between cathode and all other elements connected as anode.

(2) This measurement is made with a blue filter (Corning CS-5-58, 1/2 stock thickness) interposed between a calibrated 2854° K tungsten light source and the photocathode. The (B) appearing in the units signifies that the measurement is made with the blue filter in place.

(3) Measured at the supply voltage which gives an anode sensitivity of 20 A/lm.

(4) Recommended operating maximums.

BASING OPTIONS: W - Wire Leads (No Base)

Voltage dividers available made to customer specifications.



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