

B133C01 Photomultiplier Tube

The B133C01 is a 5" diameter 10-stage end-on photomultiplier with sensitivity from visible to near IR regions. Designed for scintillation counting and other applications where high quantum efficiency, low dark current, good collection efficiency, and gain stability are of paramount importance.

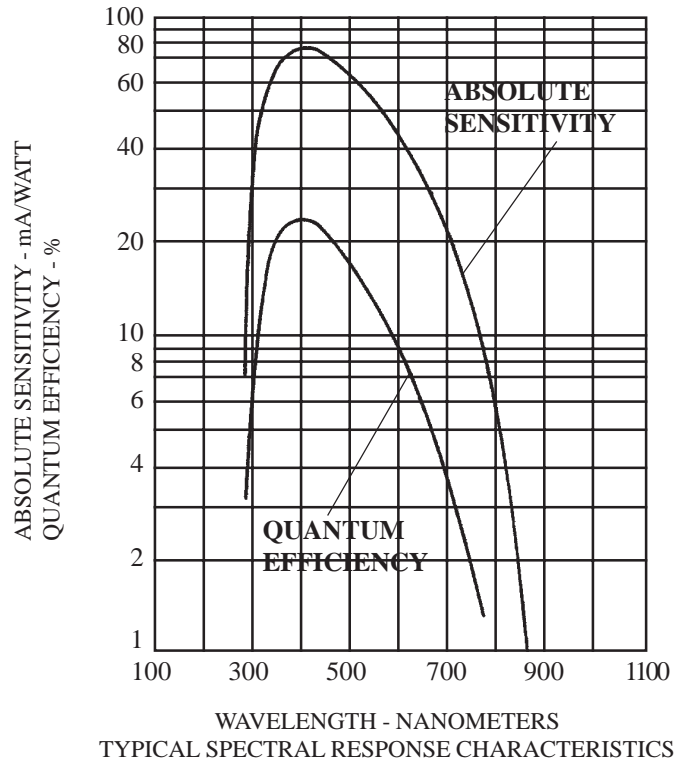
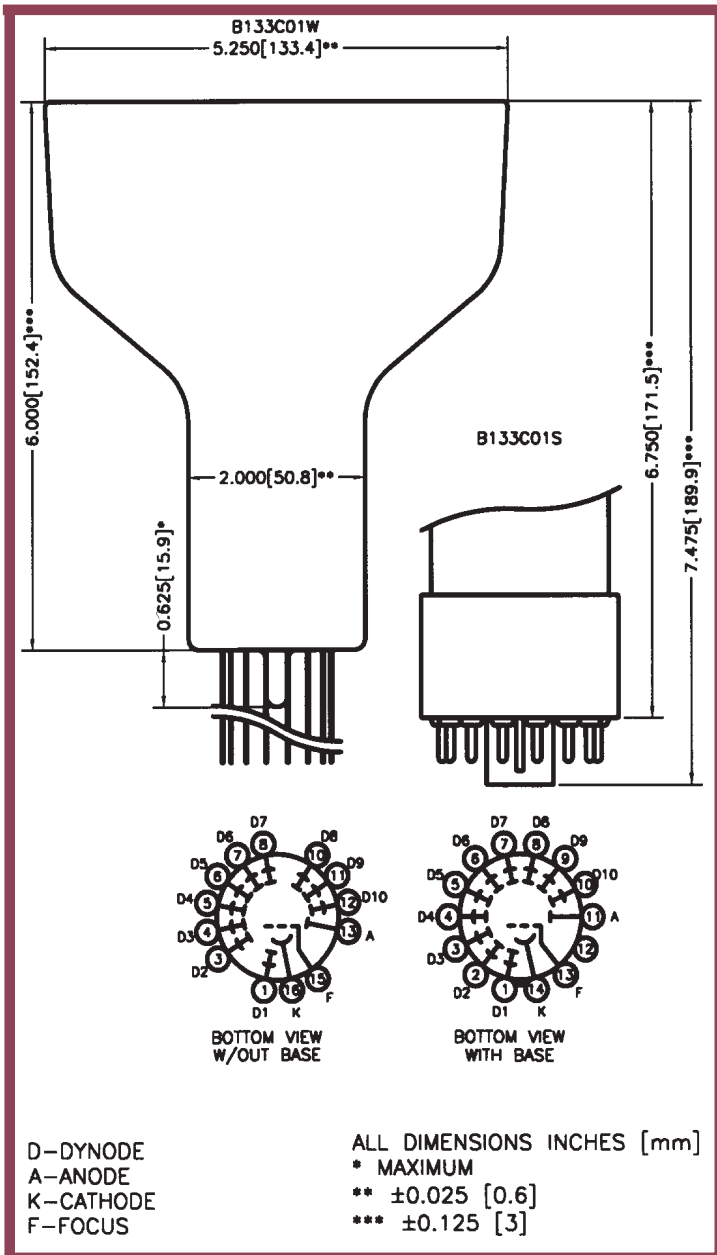


FIGURE 1

Photocathode:	Semitransparent Trialkali	S-20
Spectral Response		See Figure 1
Wavelength of maximum response		400 ± 50 nm
Minimum diameter		119.38 mm
Window shape		plano-plano, circular
Window index of refraction @ 436 nm		1.523
Dynodes		BeCu, Box & Grid
Capacitance (anode to all electrodes)		9.5 pF
Operating position		Any
Weight		655 grams

Rev. 01/04



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ELECTRICAL OPERATING RATINGS

	MINIMUM	TYPICAL	MAXIMUM ⁽⁵⁾	UNITS
Cathode to dynode No. 1 voltage	40	150	300	VDC
Cathode to anode voltage		1100	1500	VDC
Voltage between consecutive dynodes			250	VDC
Ambient storage temperature		23	60	°C
Anode current, average over 30 sec.		0.5	100	μA
Cathode current		1	5	μA
Cathode luminous sensitivity: ⁽¹⁾				
With 2854° K tungsten source	120	160	250	μA/lm
With blue light source ⁽²⁾	5	9	12	μA/lm(B)
With red light source ⁽³⁾	30	75	90	μA/lm(R)
Quantum efficiency @ 420 nm		20		%
Cathode radiant sensitivity @ 420 nm		80		mA/W
@ 680 nm		20		
Anode luminous sensitivity 1100 VDC:				
With 2854° K tungsten source of 1×10^{-3} lm	1.50	5.0		A/lm
With blue light source ⁽²⁾	0.17	0.3		A/lm(B)
With red light source ⁽³⁾	0.90	2.2		A/lm(R)
Current amplification @ 1100 VDC		1.0×10^5		
Anode dark current ⁽⁴⁾ @ 22° C		2	5.0	nA

(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 [A/lm (B)] signifies that the measurement is made with the blue filter in place.

(3) This measurement is made with a red filter (Corning CS-2-62) interposed between a calibrated 2854° K tungsten light source and the photocathode. The (R) appearing in the units signifies that the measurement is made with the red filter in place.

(4) Measured at the supply voltage which gives an anode sensitivity of 5 A/lm.

(5) Recommended operating maximums.

NOTE: When ordering one of the following basing options must be added, i.e. B133C01S

BASING OPTIONS: L - Long Base S - Short Base W - Wire Leads (No Base)

Voltage dividers available made to customer specifications.



P.O. Box 870 • 300 Crane • Sweetwater, Texas 79556
 800-399-4557 • 325-235-1418 • Fax: 325-235-2872 • E-mail: adit@aditpmt.com Website: www.aditpmt.com