

PHOTOMULTIPLIER TUBE

83121 600

BURLE

PRELIMINARY
August 2004



- **New Low Profile PMT.**
- **Multi-alkali Photocathode.**
- **10 Stage, Head-on Type.**
- **1.125" (28 mm) Round, Stiff Pin.**
- **For General Spectroscopy.**

The 83121 is a new low profile 28mm head-on PMT with a Multi-Alkali photocathode having high sensitivity, high gain, and good timing characteristics. It is intended for use in photon counting and general spectroscopy where good red response is required. It is socket compatible with the majority of 28mm head-on tubes currently available.

GENERAL

Parameter		Value	Unit
Spectral Response		300 to 850	nm
Wavelength of Maximum Response		370	nm
Photocathode	Material	Multi-alkali	--
Window Material		Schott 8250 Glass or equivalent	--
Dynode	Structure	In-line linearly focused	--
	Number of Stages	10	--
Base		14-pin glass base	--
Suitable Socket		AJ2263B	--

Maximum Ratings (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	1700	Vdc
Average Anode Current		0.2	mA
Ambient Temperature		- 40 to + 70	C

Characteristics (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous	100	200		μA/lm
	Red (with CS-2-62 filter)	45	90	--	μA/inc lm
	Quantum efficiency at 370nm	--	27	--	%
Anode Sensitivity	Luminous	--	100	--	A/lm
Current Amplification		--	0.5x10 ⁶	--	--
Anode Dark Current (after 30min)		--	2	20	nA
Time Response	Anode Pulse Rise Time (1500V)	--	TBD	--	ns
	Electron Transit Time (1500V)	--	TBD	--	ns
	Transit Time Spread (T.T.S.) FWHM	--	TBD	--	ns
Pulse Linearity at 5% Deviation			20		mA

Note: Measured with the condition shown in Table 1 except where noted.



Table 1 VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE (-1000 Volts)

Electrodes	K	Dy1	Dy 2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P
Ratio	3	1	1.5	1	1	1	1	1	1	1	1	1

K : Cathode, Dy : Dynode P : Anode

**BURLE 83121-600 Low Profile Photomultiplier
Outline Drawing 83121-600**

ACCESSORIES:

Socket Connector

AJ2263A

VDN Socket Assemblies

- AJ2345 01 NEG HV; High Gain
- AJ2345 02 POS HV; High Gain
- AJ2345 03 NEG HV; High Linearity
- AJ2345 04 POS HV; High Linearity

HV Power Supply

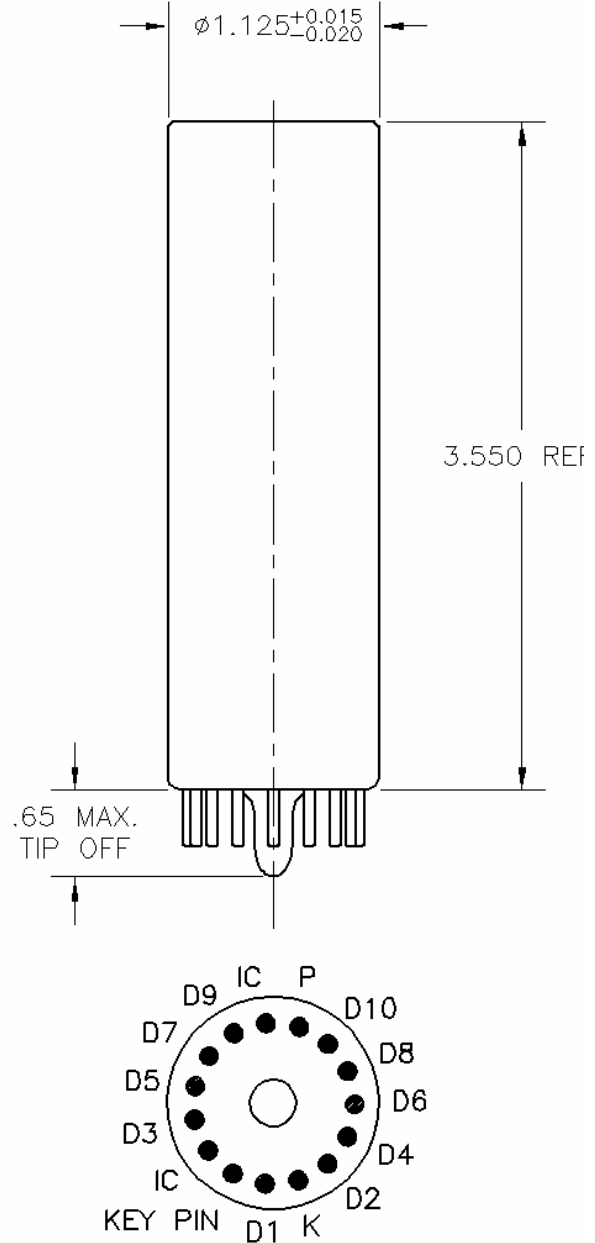
- Bench: PF1053
- Modular: PF1041

Magnetic Shield

Standard and custom MU-Metal shields available.

Packaging & Electronics:

Engineering will entertain custom designs for packaging, VDNs, Electronics, Integrated Units, etc.



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