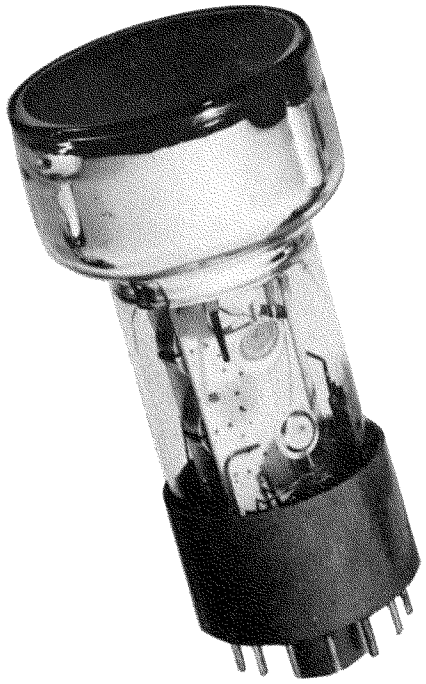
DU MONT

type 6363

Multiplier Phototube



The Du Mont Type 6363 is a 10-stage multiplier phototube of the end-window type with a spectral response predominantly in the visible region (see spectral sensitivity curve). The Type 6363 is 3 inches in diameter.

The Type 6363 features a highly sensitive uniform photocathode with an average sensitivity of 60 ua/lumen. Optimum photo-electron collection is accomplished by adjustment of the potential between the separate shield and photocathode. This optimum photo-electron collection assures excellent signal-to-noise ratio, particularly at low light levels.

Advanced construction in the Type 6363 provides an arrangement of the box-type dynodes in linear cascade. This permits a large physical separation between the anode and photocathode resulting in low leakage currents because of the long leakage paths in the tube, resulting in an appreciable improvement in the signal-to-noise ratio.

Because of the new construction, as well as the material and construction of the dynodes, the Type 6363 has very excellent stability over long periods of time.

The fairly large end-window dimension of the Type 6363 makes it particularly useful for scintillation counting using crystals of medium size.

GENERAL CHARACTERISTICS

Electrical

	Min.	Avg.	Max.	(units)
Spectral response		S4		
Cathode luminous sensitivity at 210 volts, 0 cycles between cathode and all other electrodes	40	60		μA/lumen
Anode luminous sensitivity				
105 volts/stage, 0 cycles	4	13		A/lumen
145 volts/stage, 0 cycles	28	120		A/lumen
Wavelength at maximum response	3500	4000	4500	Angstroms
Cathode sensitivity at maximum response at 210 volts between cathode and all other electrodes		.056		μA/μW
Anode dark current at 105 volts/stage (25°C)			.05	μA
Interelectrode dark current at 105 volts/stage (25°C)			.05	μA
Current amplification at:				
105 volts/stage	100,000	215,00		
145 volts/stage	700,000	2,000,000		
Interelectrode capacitances				
anode to all other electrodes				
Anode to last dynode		3.3		μμf
Shield Potential (Note 3)		1.3		μμf

Mechanical

	Min.	Avg.	Max.	(units)
Window dimension	2½			in. Dia.
Greatest bulb diameter		3 ± 3/32		in.
Neck diameter		2 ± 1/16		in.
Seated height		5-3/8 ± 3/16		in.
Overall length		6-1/8 ± 3/16		in.
Base - Medium shell diheptal, 14 pin (B14-38)				
Mounting position		Any		

Maximum Ratings (Design Center Values)

Peak cathode current (Note 1)	20	μA
Average anode current	5	mA
(Note 2)	25	mA
Peak anode current	0.5	W
Average anode dissipation	2.5	W
(Note 2)		
Peak anode dissipation		
Supply voltage between anode and cathode (DC or peak AC)	1800	Volts
Ambient Temperature	75	°C

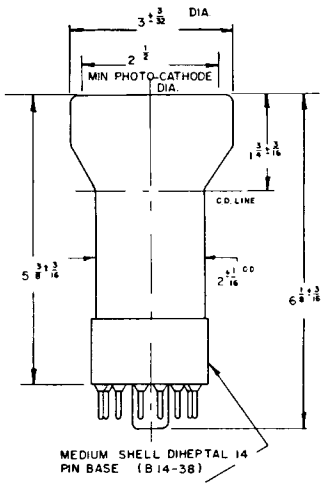
NOTES

1. The cathode current given here is that current at which the response of the cathode current ceases to be a linear function of the light intensity because of cathode resistance. In general, the cathode current must be kept well below this value in order to satisfy the maximum ratings on the anode current.

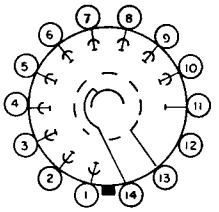
2. Averaged over a 30 second interval maximum.

3. Shield potential may be operated at any point between photocathode and dynode No. 1. In general, however, optimum signal-to-noise ratio is obtained when the shield potential is 10 to 40% of that between photocathode and dynode No. 1.

Technical Sales Department
ALLEN B. DU MONT LABORATORIES, INC.
760 Bloomfield Avenue, Clifton, New Jersey



NOTE: DIRECTION OF LIGHT INTO END OF BULB.



BOTTOM VIEW

PIN NO.	ELEMENT
1	DYNODE NO.1
2	DYNODE NO.2
3	DYNODE NO.3
4	DYNODE NO.4
5	DYNODE NO.5
6	DYNODE NO.6
7	DYNODE NO.7
8	DYNODE NO.8
9	DYNODE NO.9
10	DYNODE NO.10
11	ANODE
12	INTERNAL CONNECTION
13	SHIELD
14	CATHODE