

27M12

NINE STAGE PHOTO-ELECTRIC MULTIPLIER

GENERAL

The 27M12 is a nine stage photo multiplier cell for use in aircraft, being especially resistant to shock and vibration. It has a blue sensitive caesium antimony coated cathode and is fitted with flying leads.

RATING

Maximum Dynode k10 to Cathode Voltage (DC or Pk AC)	(volts)	$V_{k10-k1(max)}$	585
Maximum Anode to Dynode k10 Voltage	(volts)	$V_{a-k10(max)}$	65
Maximum Anode Current	(mA)	$I_a(max)$	1.0
Average Cathode Sensitivity	($\mu A/lumen$)	$S_{k1(av)}$	20*
Maximum Ambient Working Temperature	(°C)		70

* $V_{k1} = 0$, all Dynodes joined at 100 volts. Colour temperature of lamp 2,700°K.

DIMENSIONS

Maximum Overall Length	(mm)	77
Nominal Seated Height	(mm)	63
Light Centre from Top (nominal)	(mm)	27.8
Maximum Bulb Diameter	(mm)	29.5
Cathode Length	(mm)	24
Cathode Width	(mm)	8
Approximate Nett Weight	(ozs)	1½
Approximate Packed Weight	(ozs)	4

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MOUNTING POSITION Unrestricted

TYPICAL OPERATION

Anode to Dynode k10 Voltage	(volts)	V_{a-k10}	65
Voltage per stage	(volts)		65
Anode Dark Current from Dynode k10(max)	(μA)		0.1**
Luminous Sensitivity from Dynode k10	(A/lumen)		0.4†
Average Current Amplification			20,000††

**With Anode to Dynode k10 and Dynode to Dynode Voltages 100 volts per stage.

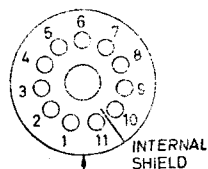
† Measured with a lamp colour temperature 2,700° K and a light area of 5 x 20 mm.

†† Ratio of k10 sensitivity to cathode sensitivity.

NOTES.—The bleed current in the potentiometer chain should be at least ten times the maximum output current.

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BASE—Flying Leads.

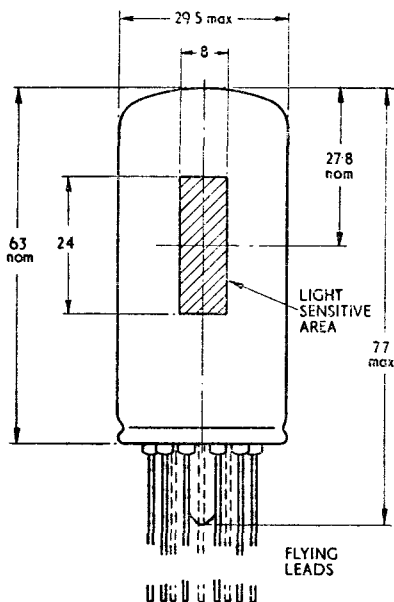


Direction of Light
Viewed from free end

CONNECTIONS

Pin 1	Secondary Cathode 2	k2
Pin 2	Secondary Cathode 3	k3
Pin 3	Secondary Cathode 4	k4
Pin 4	Secondary Cathode 5	k5
Pin 5	Secondary Cathode 6	k6
Pin 6	Secondary Cathode 7	k7
Pin 7	Secondary Cathode 8	k8
Pin 8	Secondary Cathode 9	k9
Pin 9	Secondary Cathode 10	k10
Pin 10	Anode	a
Pin 11	Photo cathode, Shield	k1,s

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Leads on 17.2 mm P.C.D.

All dimensions in mm.

6-27M12-90-1

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AVERAGE CHARACTERISTIC CURVE: S/λ
For equal values of radiant flux at all wavelengths.

