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 (μA/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) $1\frac{1}{2}$
Approximate Packed Weight (ozs) 4

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Associated Electrical Industries Limited
Electronic Components Division
Tel: GERrand 9797
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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) (\( \mu A \)) 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 × 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.

CONNECTIONS

<table>
<thead>
<tr>
<th>Pin</th>
<th>Secondary Cathode 2</th>
<th>k2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 2</td>
<td>Secondary Cathode 3</td>
<td>k3</td>
</tr>
<tr>
<td>Pin 3</td>
<td>Secondary Cathode 4</td>
<td>k4</td>
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<tr>
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<td>k9</td>
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<td>Secondary Cathode 10</td>
<td>k10</td>
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<tr>
<td>Pin 10</td>
<td>Anode</td>
<td>a</td>
</tr>
<tr>
<td>Pin 11</td>
<td>Photo cathode, Shield</td>
<td>k1,s</td>
</tr>
</tbody>
</table>
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Leads on 17.2 mm P.C.D.

All dimensions in mm.
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AVERAGE CHARACTERISTIC CURVE: $S/\lambda$
For equal values of radiant flux at all wavelengths.