

ZP1201

GEIGER-MÜLLER TUBE

Halogen quenched γ radiation counter tube fitted in a filter. The energy response is flat to within +25% over the range 50 keV to 1.25 MeV referred to ^{137}Cs (661 keV). The ZP1201 is an energy compensated version of the ZP1200.

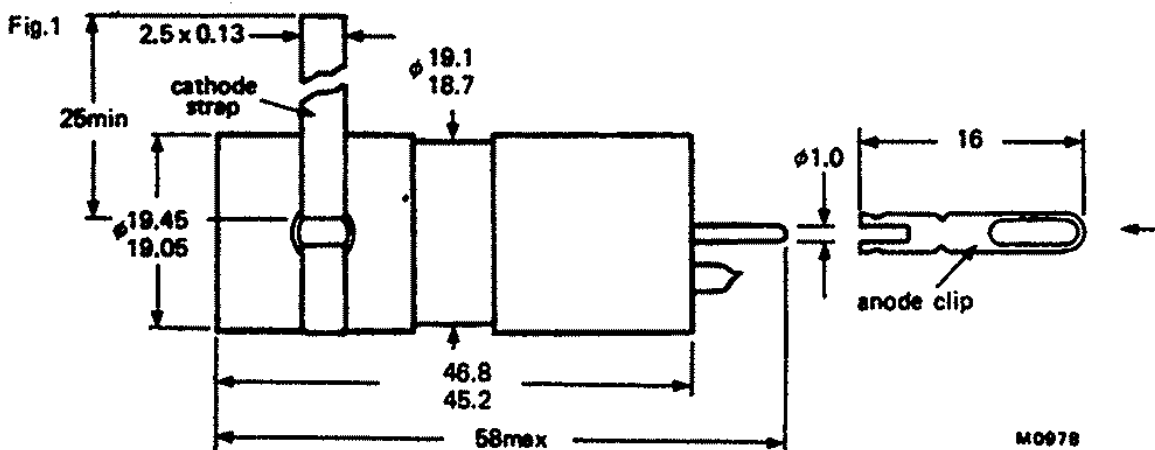
QUICK REFERENCE DATA

| | | |
|----------------------------|-----------------|--------------------|
| Dose rate range | 10^{-3} to 40 | mGy/h |
| | 10^{-4} to 5 | R/h |
| Plateau threshold voltage | 400 | V |
| Plateau length | 200 | V |
| Recommended supply voltage | 500 | V |
| Chrome-iron cathode | 250 | mg/cm ² |

This data must be read in conjunction with General Information Geiger-Müller tubes.

MECHANICAL DATA

Dimensions in mm



note: cathode strap should be connected to the tube as shown

CATHODE (ZP1200)

| | | |
|------------------|-------------|--------------------|
| Thickness | 250 | mg/cm ² |
| Sensitive length | 40 | mm |
| Material | chrome-iron | |

ENVIRONMENTAL (Manufacturer's test conditions)

| | | |
|--|-----|------------------|
| Shock (half sine wave 3 ms duration) — peak acceleration | 392 | m/s ² |
|--|-----|------------------|

FILLING

neon, argon, halogen

CAPACITANCE

| | | |
|------------------|-----|----|
| Anode to cathode | 1.2 | pF |
|------------------|-----|----|

TUBE WEIGHT

38 g

ZP1201

OPERATING CHARACTERISTICS (Ambient temperature $\approx 25\text{ }^{\circ}\text{C}$)

Measured in circuit of Fig.2

| | | | |
|---|------|------|---------------|
| Starting voltage | max. | 325 | V |
| Plateau threshold voltage | max. | 400 | V |
| Plateau length | | 200 | V |
| Recommended supply voltage | | 500 | V |
| Plateau slope | max. | 0.04 | %/V |
| Background (shielded with 50 mm Pb with an inner liner of 3 mm Al), at recommended supply voltage | max. | 10 | count/min |
| Dead time, at recommended supply voltage | max. | 110 | μs |

LIMITING VALUES (Absolute max. rating system)

| | | | |
|--|------|-----|--------------------|
| Anode resistor | min. | 4.7 | $\text{M}\Omega$ |
| Anode voltage | max. | 600 | V |
| Ambient temperature continuous operating | max. | +70 | $^{\circ}\text{C}$ |
| | min. | -40 | $^{\circ}\text{C}$ |
| storage | max. | +75 | $^{\circ}\text{C}$ |

LIFE EXPECTANCY

Life expectancy at $\approx 25\text{ }^{\circ}\text{C}$ 5×10^{10} count

MEASURING CIRCUIT

- $R_1 = 10\text{ M}\Omega$
- $R_2 = 220\text{ k}\Omega$
- $C_1 = 1\text{ pF}^*$

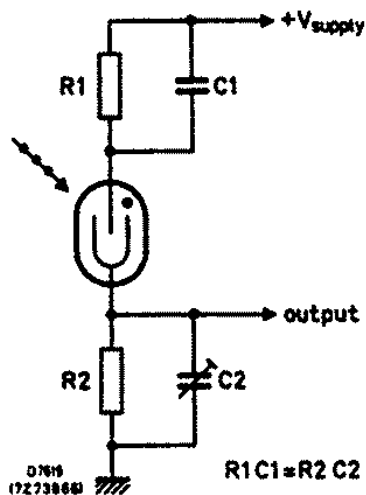
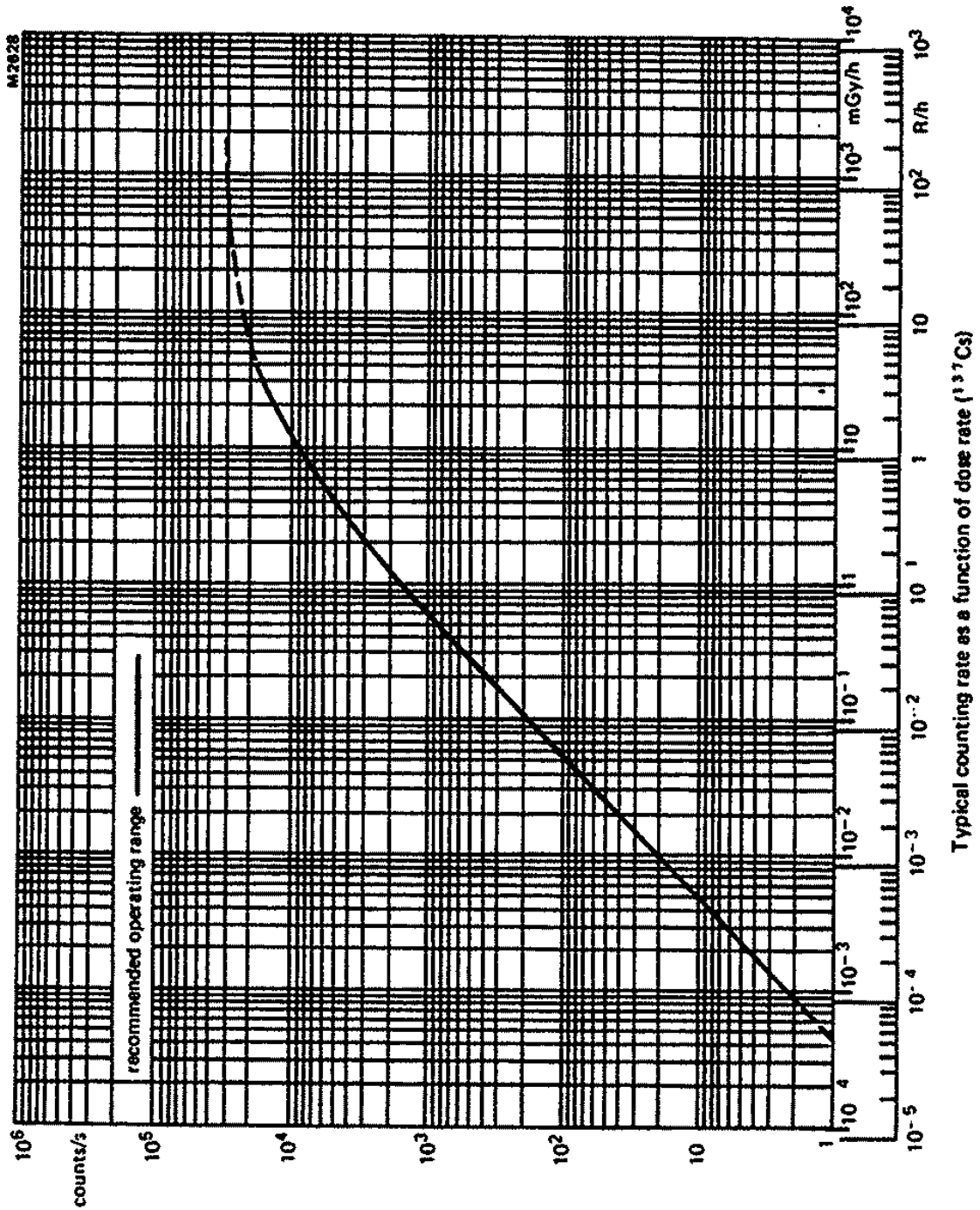


Fig.2

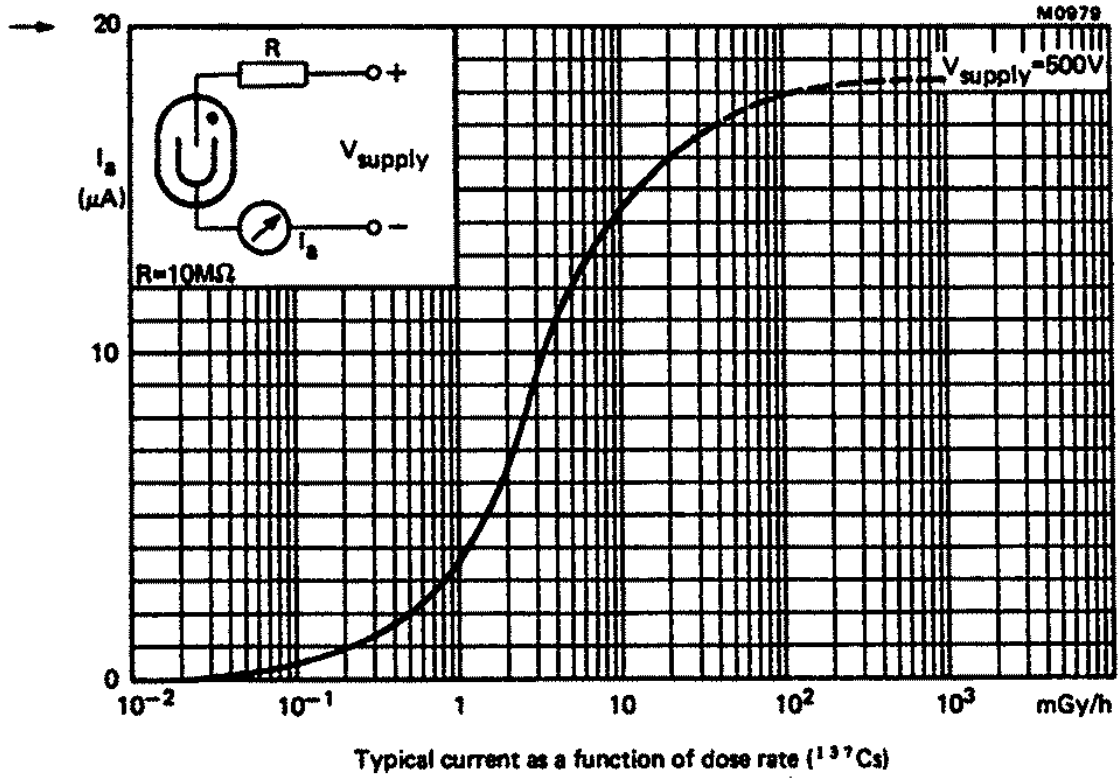
*See General Information (paragraph 5.5)

Geiger-Müller tube

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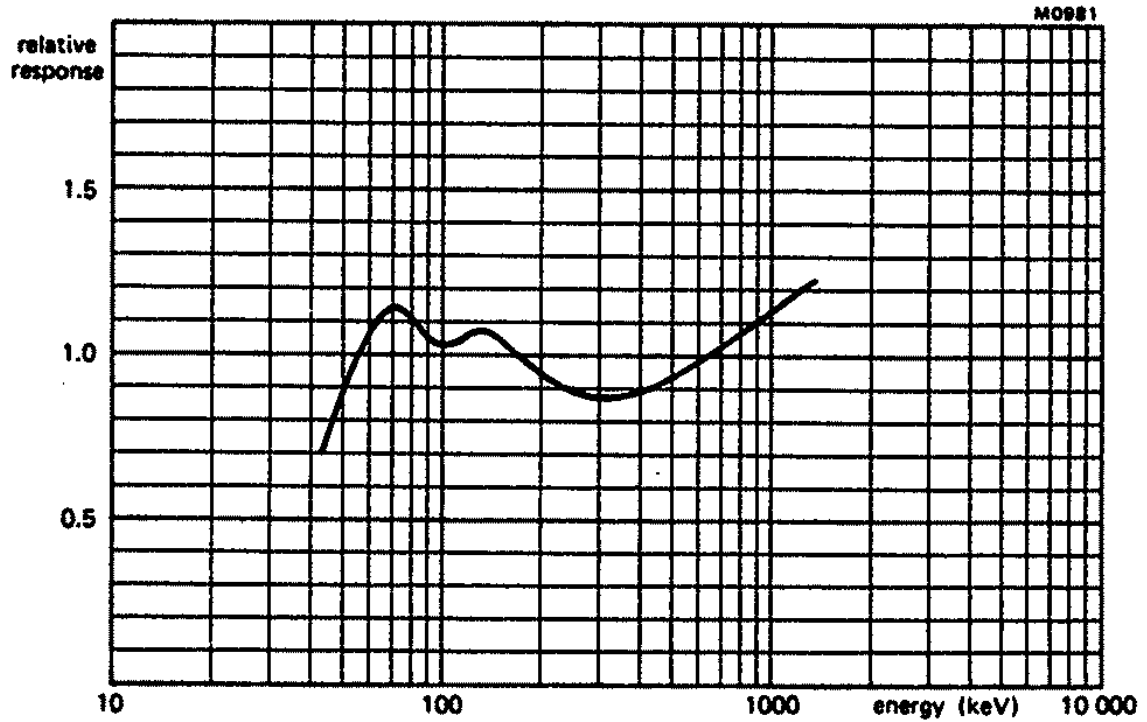


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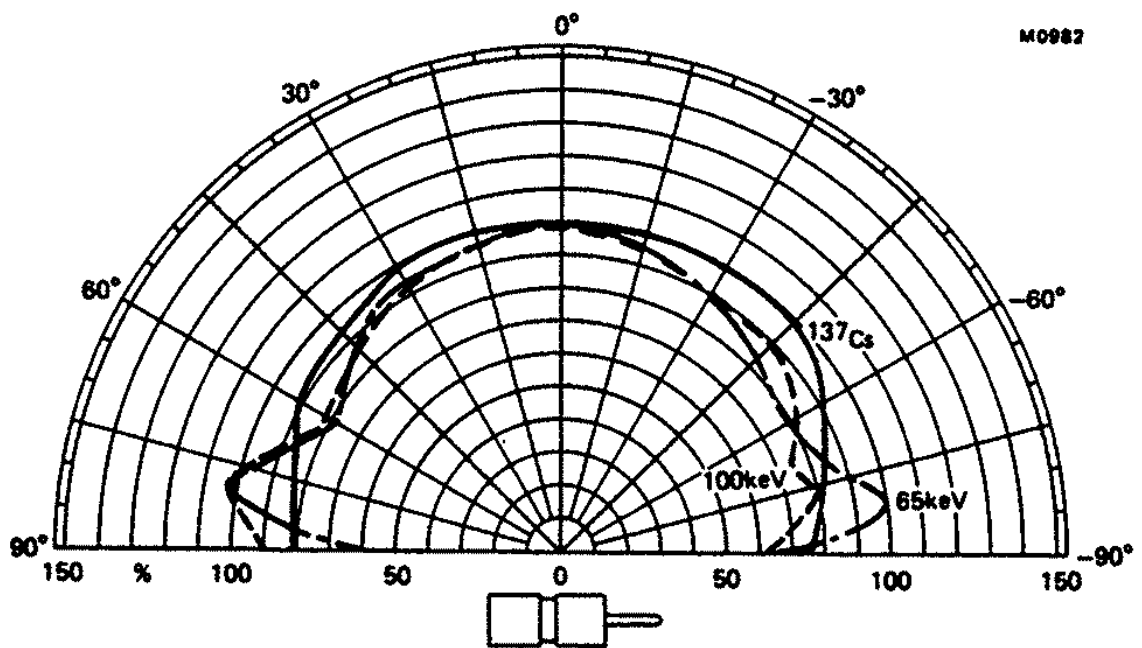


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Typical energy response relative to ¹³⁷Cs



Typical polar responses (normalised to 100% at 0°)