GEIGER-MÜLLER TUBE

Halogen quenched γ radiation counter tube fitted in a filter. The energy response is flat to within $^{+25}_{-15}$ % 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

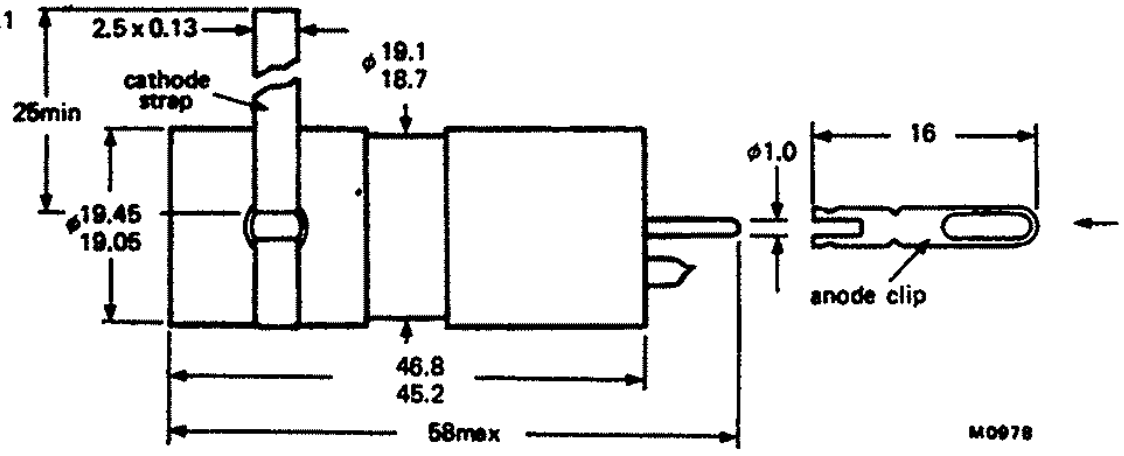
Dose rate range	10^{-3} to 40	mGy/h
	10^{-4} to 5	R/h
Plateau threshold voltage	400	V
Plateau length	200	V
Recommended supply voltage	500	V
Chrome-iron cathode	250	mg/cm²

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

MECHANICAL DATA

Dimensions in mm

Fig.1



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

CATHODE (ZP1200)

Thickness	250	mg/cm²
Sensitive length	40	mm
Material	chrome-iron	

ENVIRONMENTAL (Manufacturer's test conditions)

Shock (half sine wave 3 ms duration) – peak acceleration	392	m/s²

FILLING

neon, argon, halogen

CAPACITANCE

Anode to cathode	1.2	pF

TUBE WEIGHT

38 g

OPERATING CHARACTERISTICS (Ambient temperature ≈ 25 °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	MΩ
Anode voltage	max.	600	V
Ambient temperature			
continuous operating	max.	+70	°C
	min.	−40	°C
storage	max.	+75	°C

LIFE EXPECTANCY

Life expectancy at ≈ 25 °C		5×10^{10}	count

MEASURING CIRCUIT

R_1 = 10 MΩ
R_2 = 220 kΩ
C_1 = 1 pF*

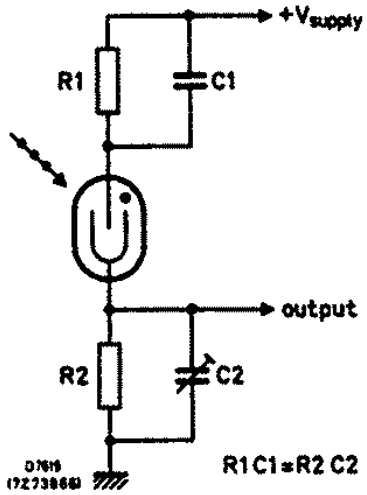
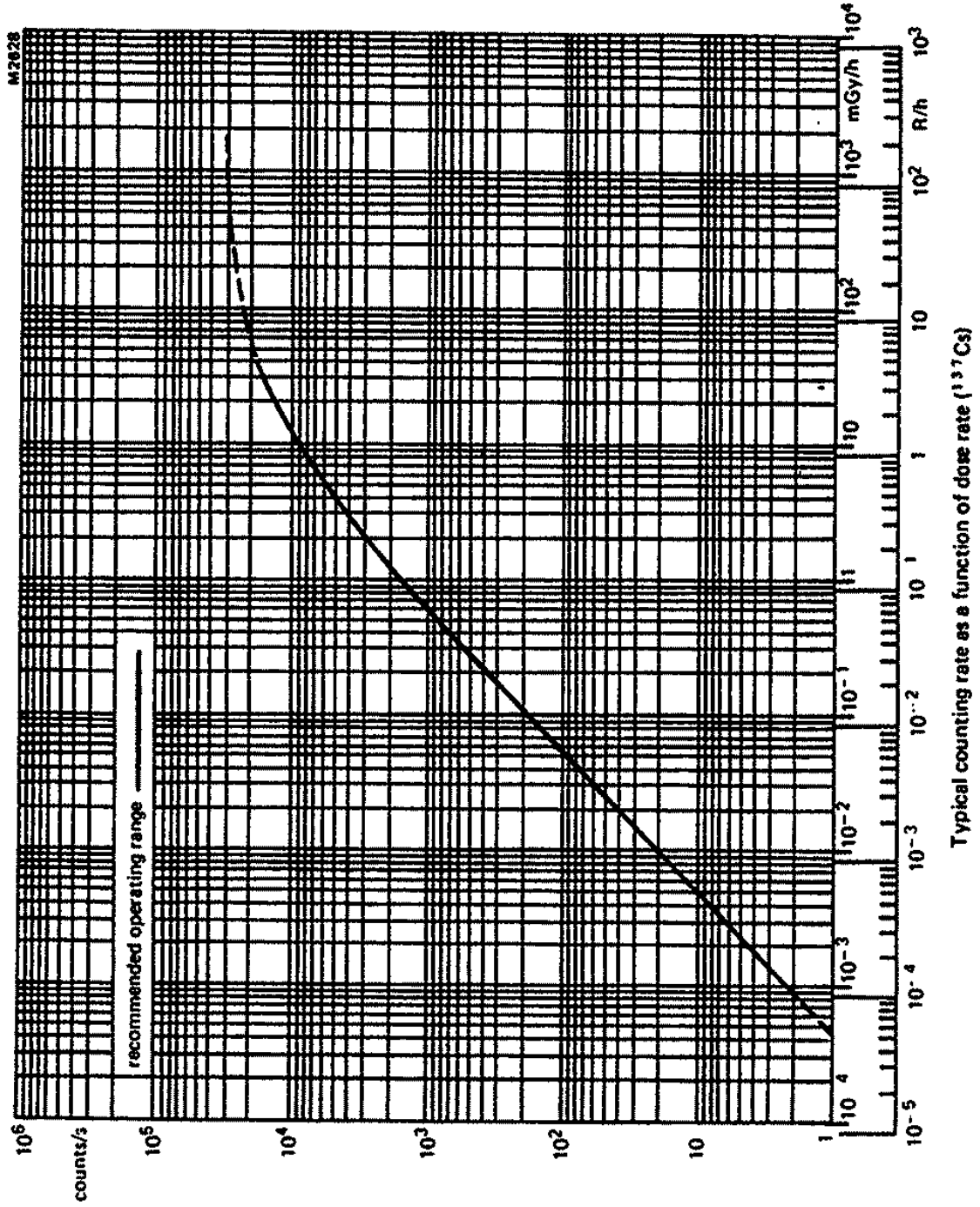
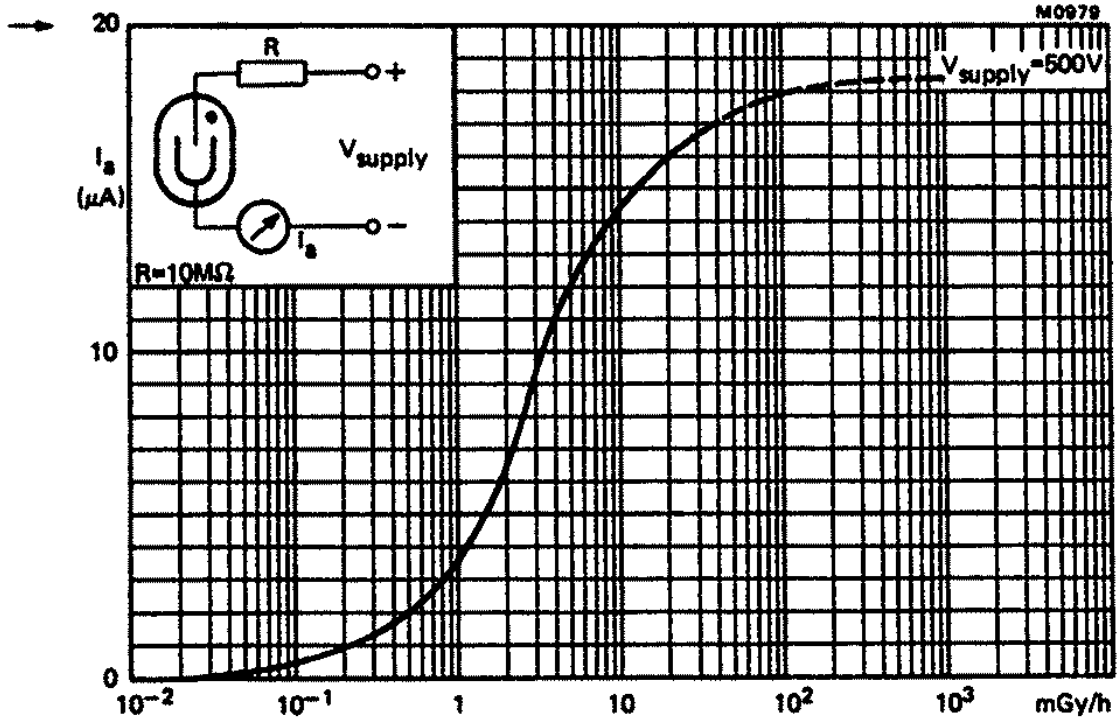


Fig.2

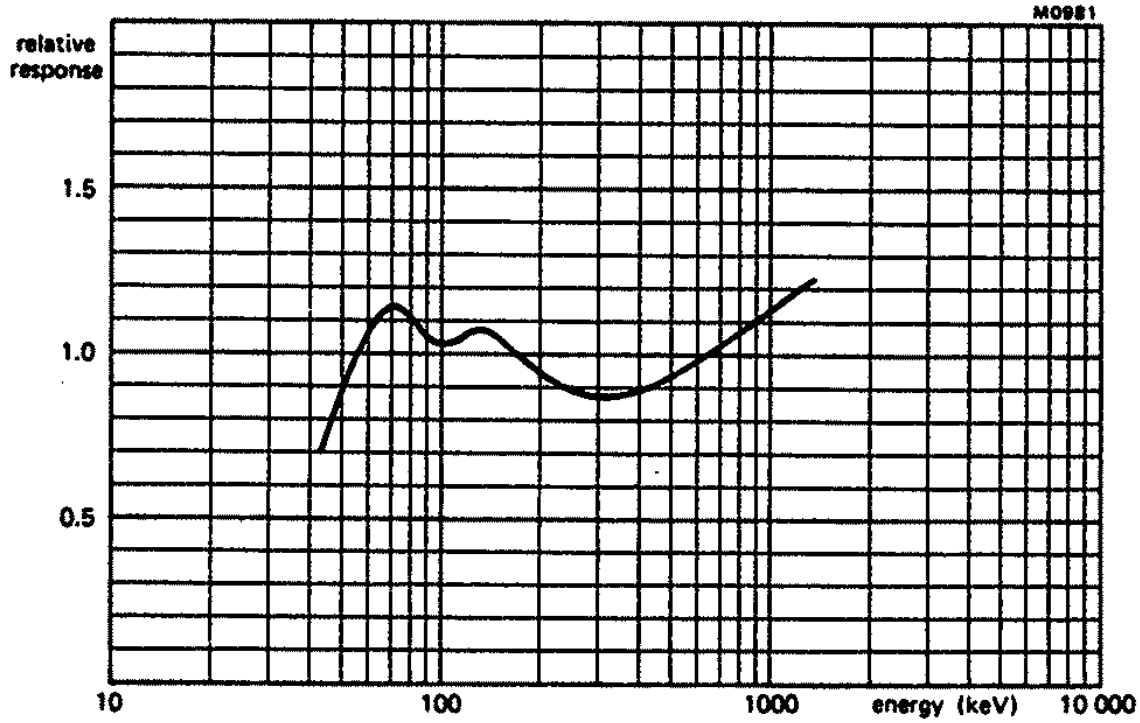
*See General Information (paragraph 5.6)



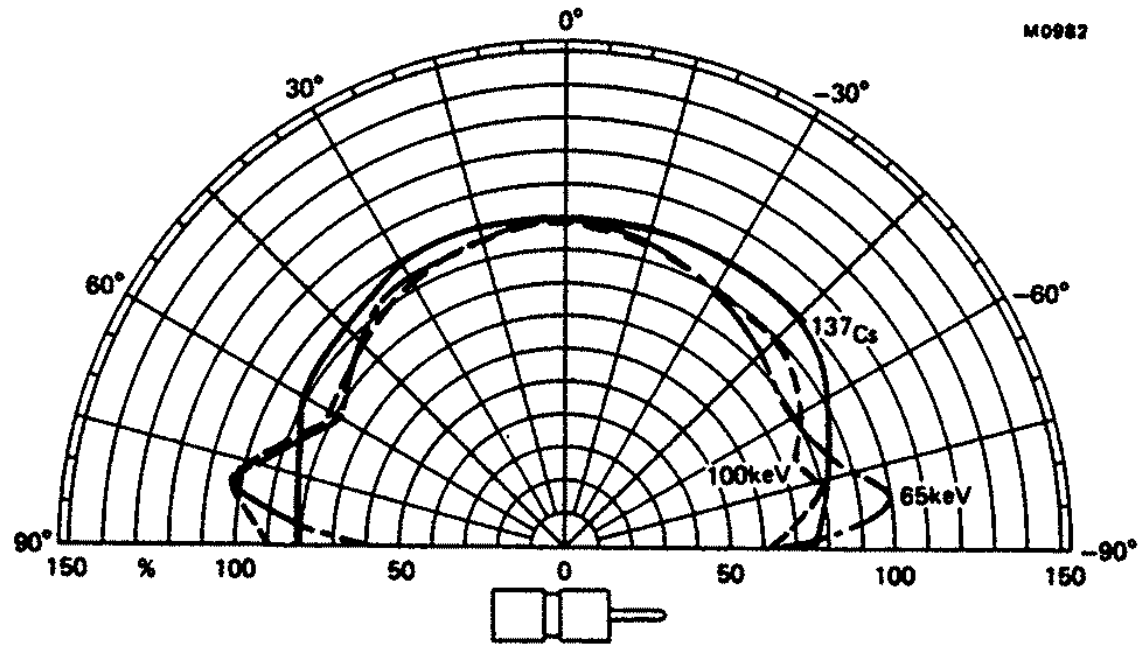
Typical counting rate as a function of dose rate (^{137}Cs)



Typical current as a function of dose rate (^{137}Cs)



Typical energy response relative to ^{137}Cs



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