GEIGER MÜLLER TUBE

Halogen-quenched γ radiation counter tube fitted in a filter. The ambient dose equivalent energy response is flat to within $^{+30}_{-20}$% over the range 50 keV to 1.25 MeV referred to ^{137}Cs (661 keV).

The ZP1202 is an energy compensated version of the ZP1200.

QUICK REFERENCE DATA

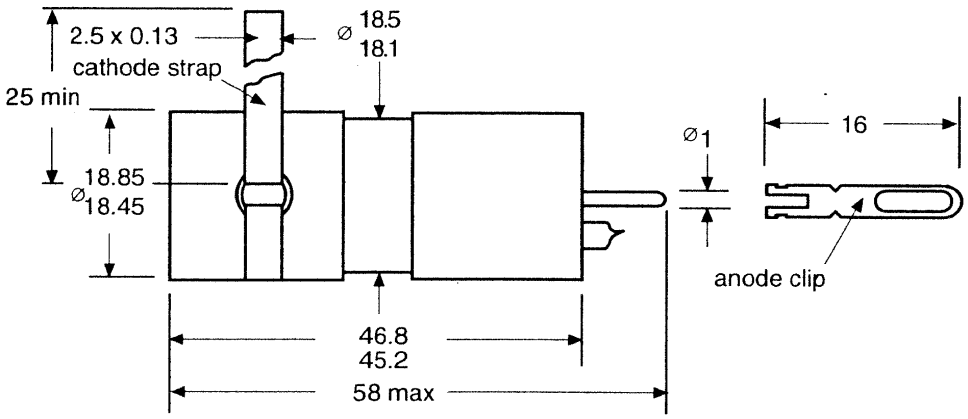
Dose rate range	1 to 4 x 10^4	µSv/h
Plateau threshold voltage	400	V
Plateau length	200	V
Recommended supply voltage	500	V
Chrome iron cathode	250	mg/cm²

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

MECHANICAL DATA

Dimensions in mm

Figure 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

32 g

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OPERATING CHARACTERISTICS (Ambient temperature ≈ 25 °C)
Measured in circuit of Figure 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 *

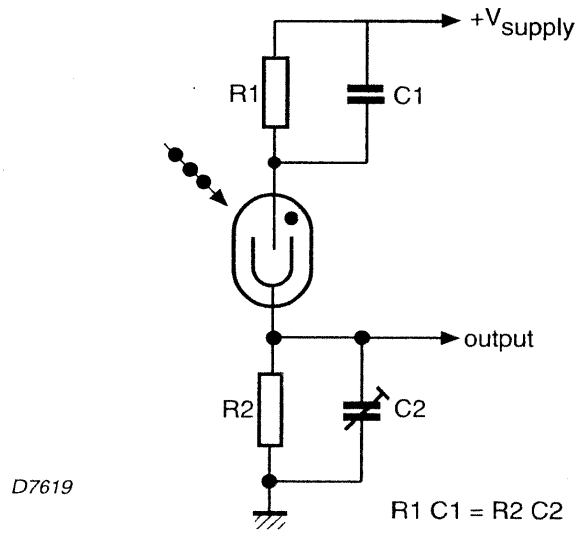

Figure 2

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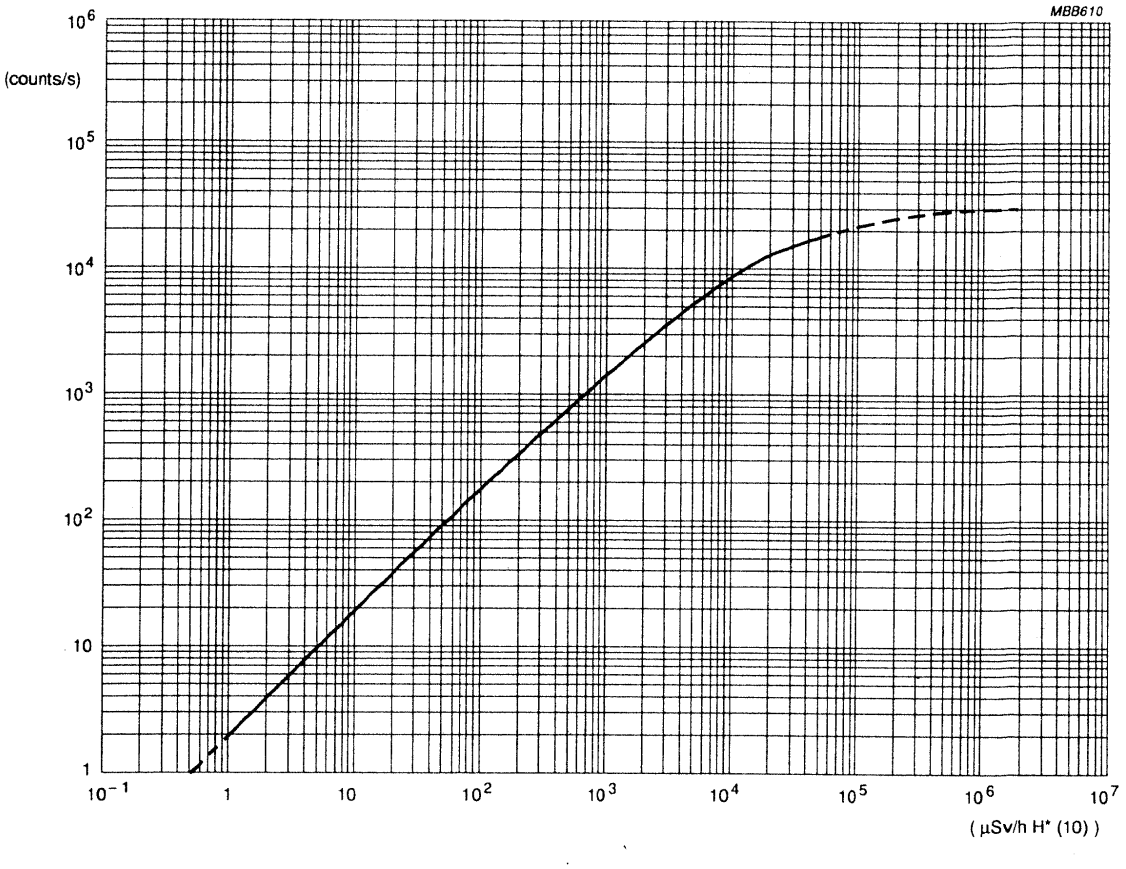

Typical counting rate as a function of dose rate (^{137}Cs)

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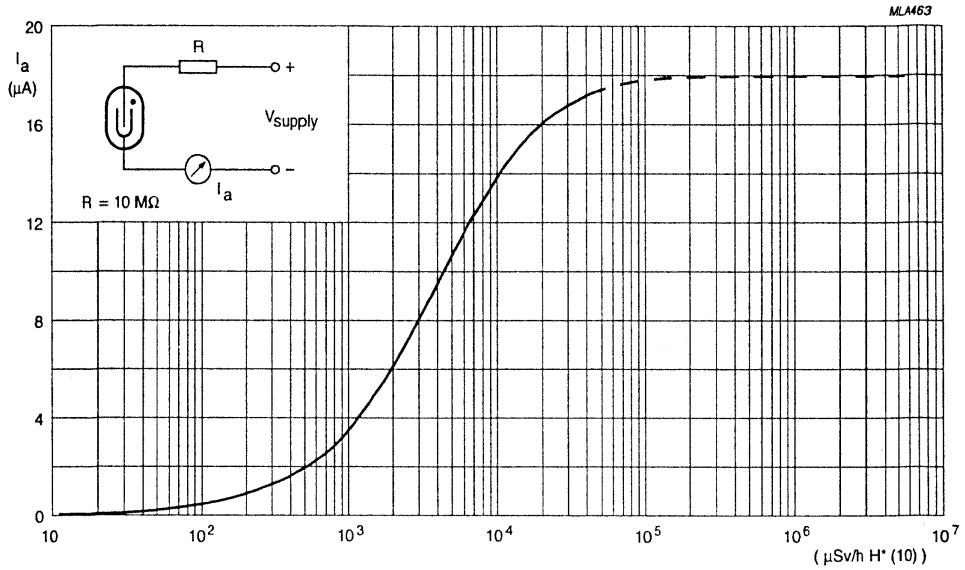
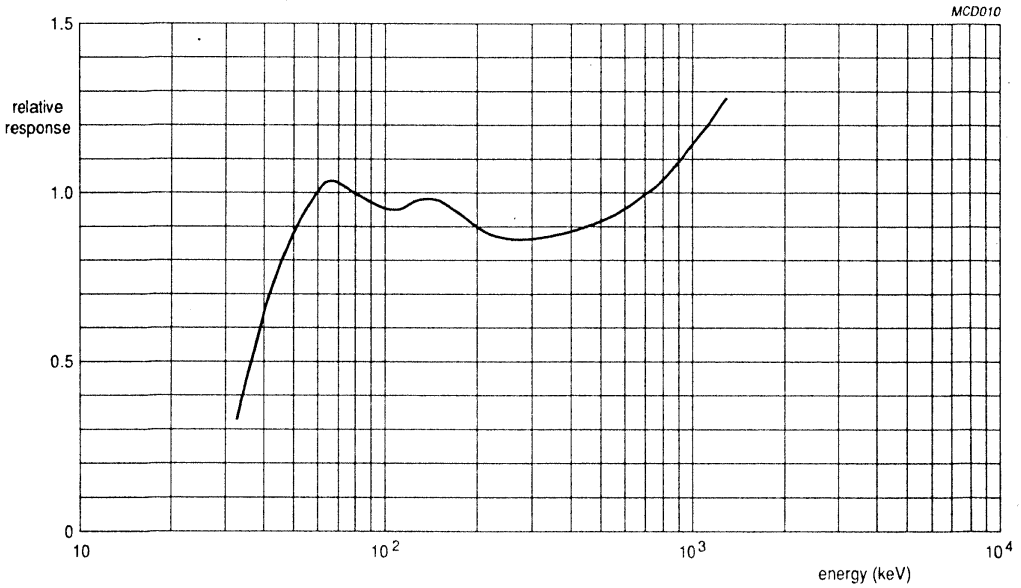


Typical current as a function of dose rate (^{137}Cs).



Typical ambient dose equivalent energy response relative to ^{137}Cs.

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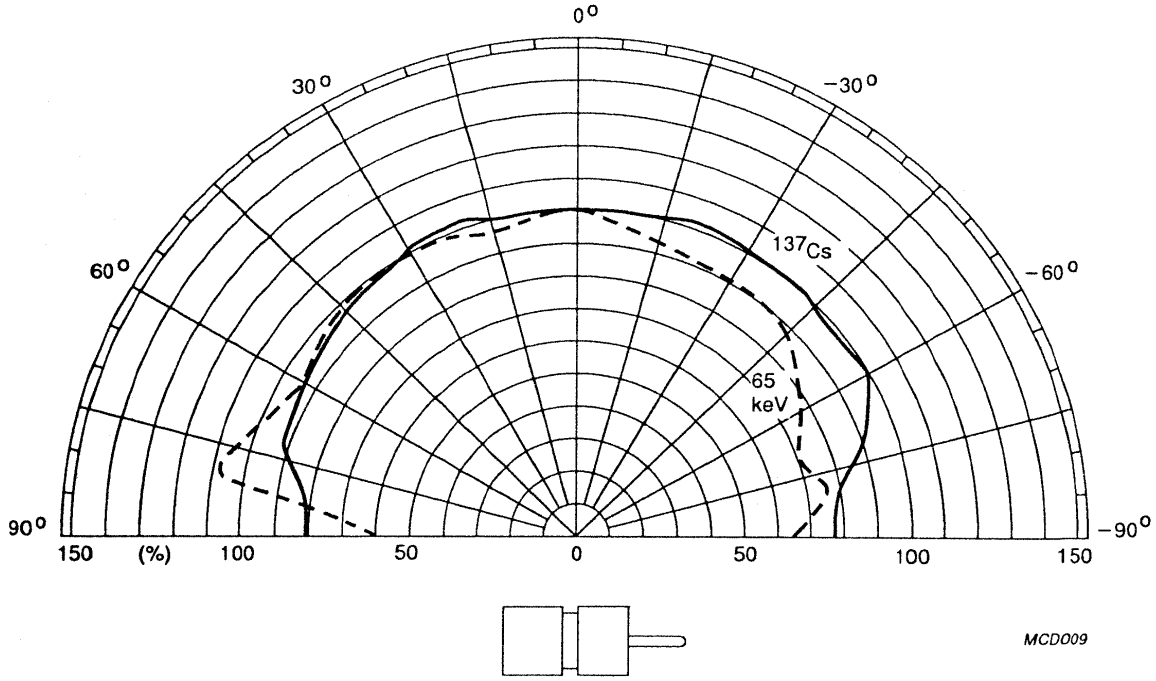

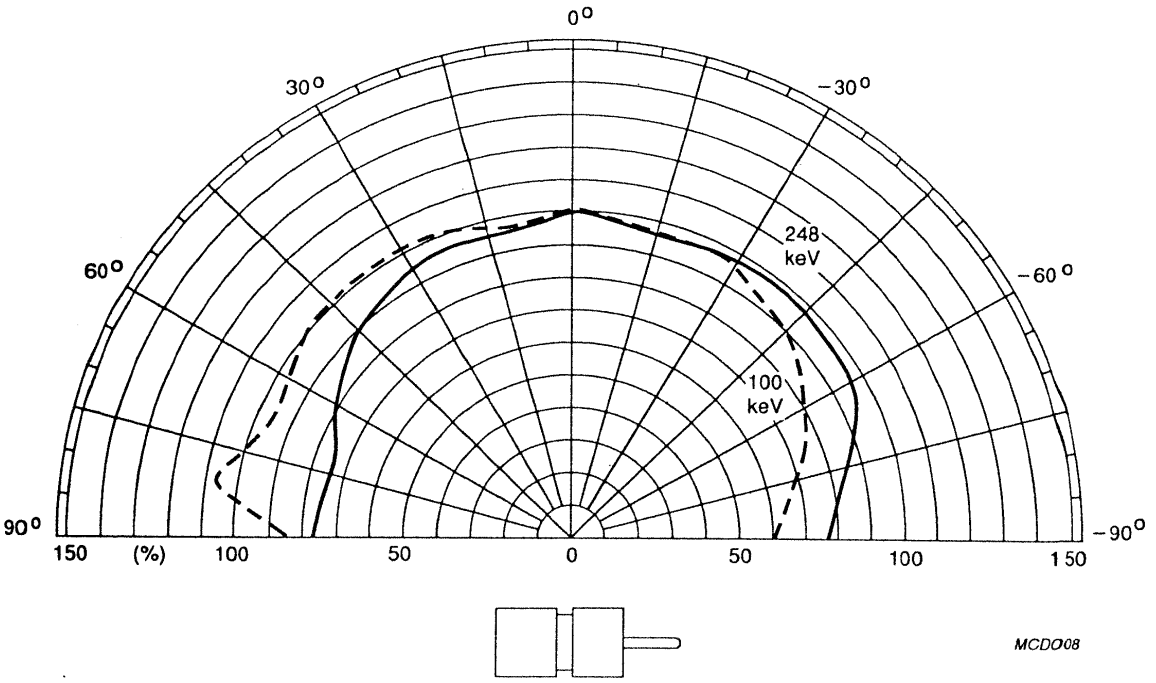

Typical polar response (normalised to 100% at 0°)

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