

GEIGER MÜLLER TUBE

Halogen-quenched γ radiation counter tube. The ZP1221/01 is the low background version of the ZP1221.

QUICK REFERENCE DATA

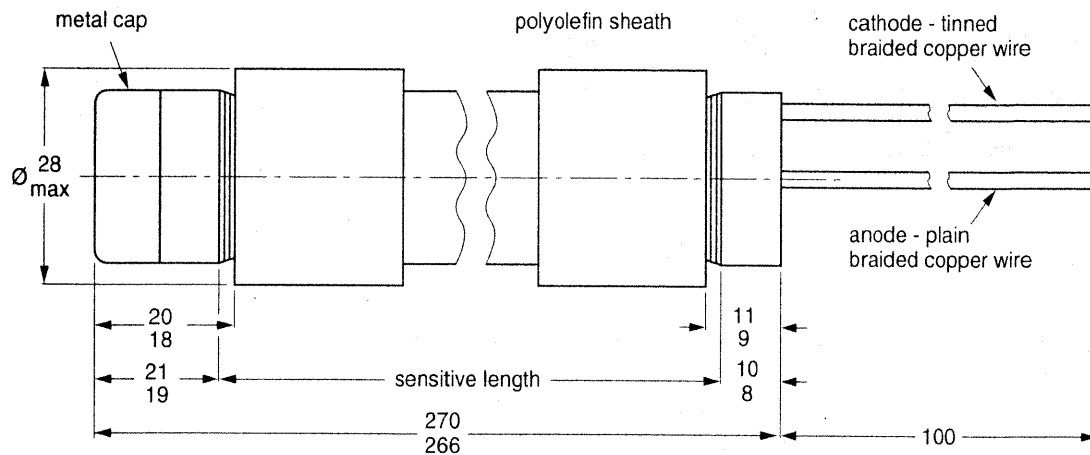
Dose rate range	2×10^{-4} to 3 2×10^{-5} to 3×10^{-1}	mGy/h R/h
Plateau threshold voltage	400	V
Plateau length	100	V
Recommended supply voltage	450	V
Chrome iron cathode	525	mg/cm ²

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

MECHANICAL DATA

Dimensions in mm

Figure 1



MBB666

Note: tube must not be clamped within 30 mm of either end.

CATHODE (ZP1220)

Thickness	525	mg/cm ²
Sensitive length	240	mm
Material	chrome iron	

ENVIRONMENTAL (Manufacturer's test conditions)

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

neon, argon, halogen

CAPACITANCE

Anode to cathode	10	pF
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TUBE WEIGHT

350 g

OPERATING CHARACTERISTICS (Ambient temperature $\approx 25\text{ }^{\circ}\text{C}$)
Measured in circuit of Figure 2.

Starting voltage	max	350	V
Plateau threshold voltage	max	400	V
Plateau length		100	V
Recommended supply voltage		450	V
Plateau slope	max	0.15	%/V
Background (shielded with 50 mm Pb with an inner liner of 3 mm Al), at recommended supply voltage	ZP1221: max	90	count/min
	ZP1221/01: max	60	count/min
Dead time, at recommended supply voltage	max	210	μs

LIMITING VALUES (Absolute max. rating system)

Anode resistor	min	2.7	$\text{M}\Omega$
Anode voltage	max	500	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
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MEASURING CIRCUIT

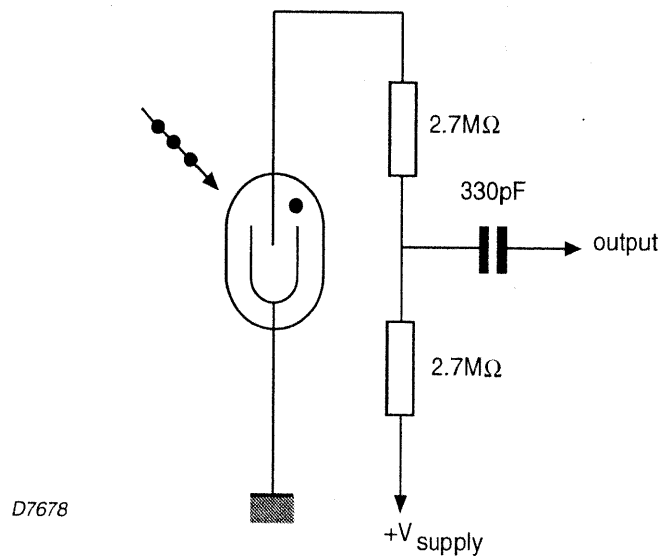
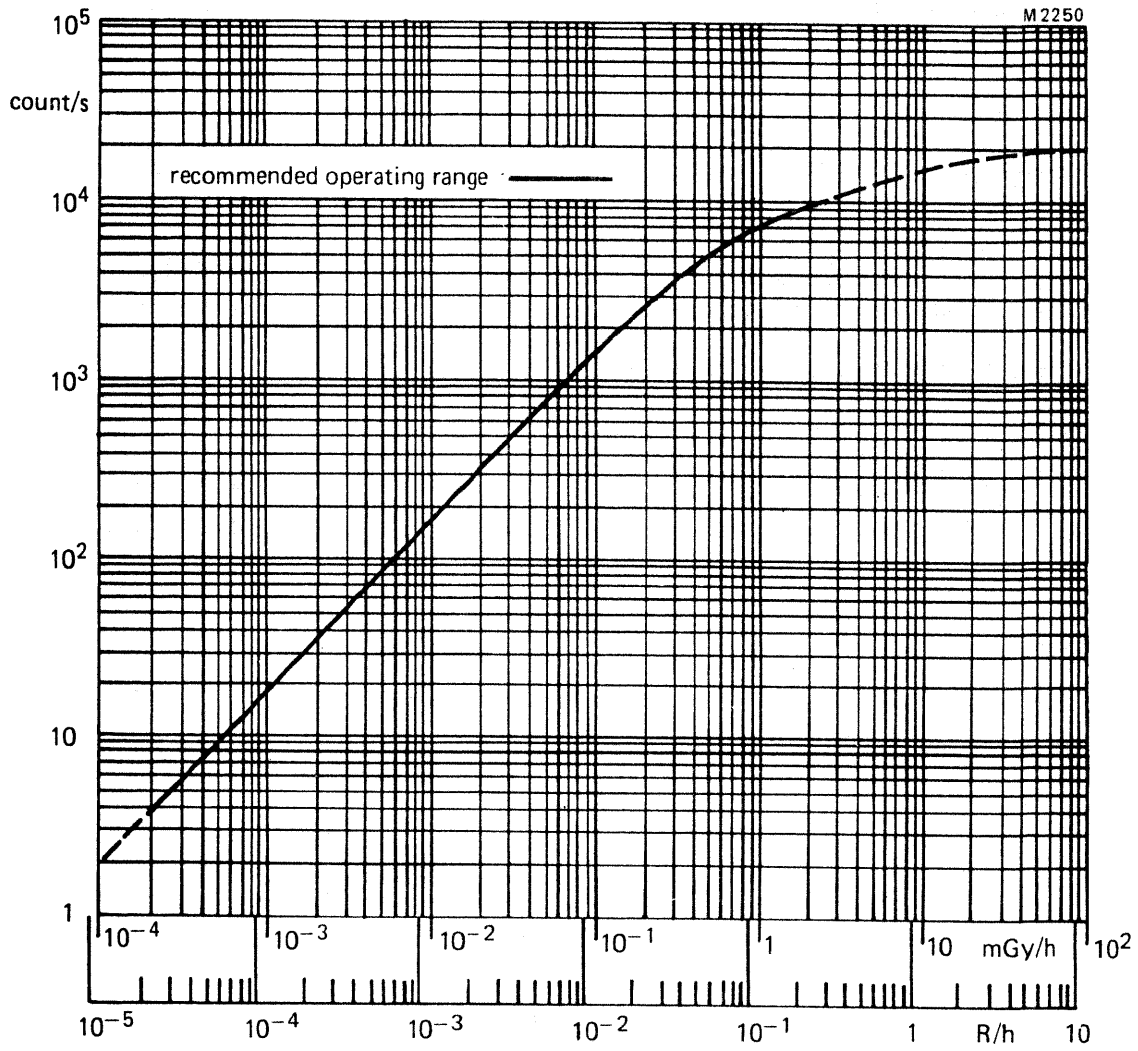
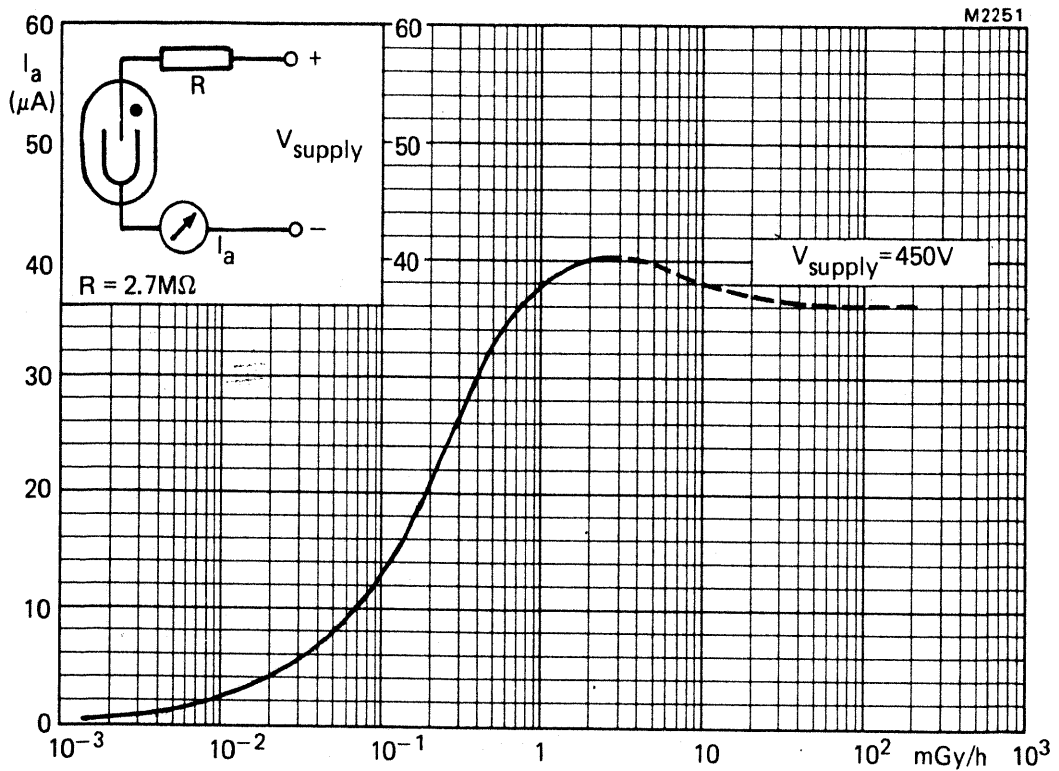


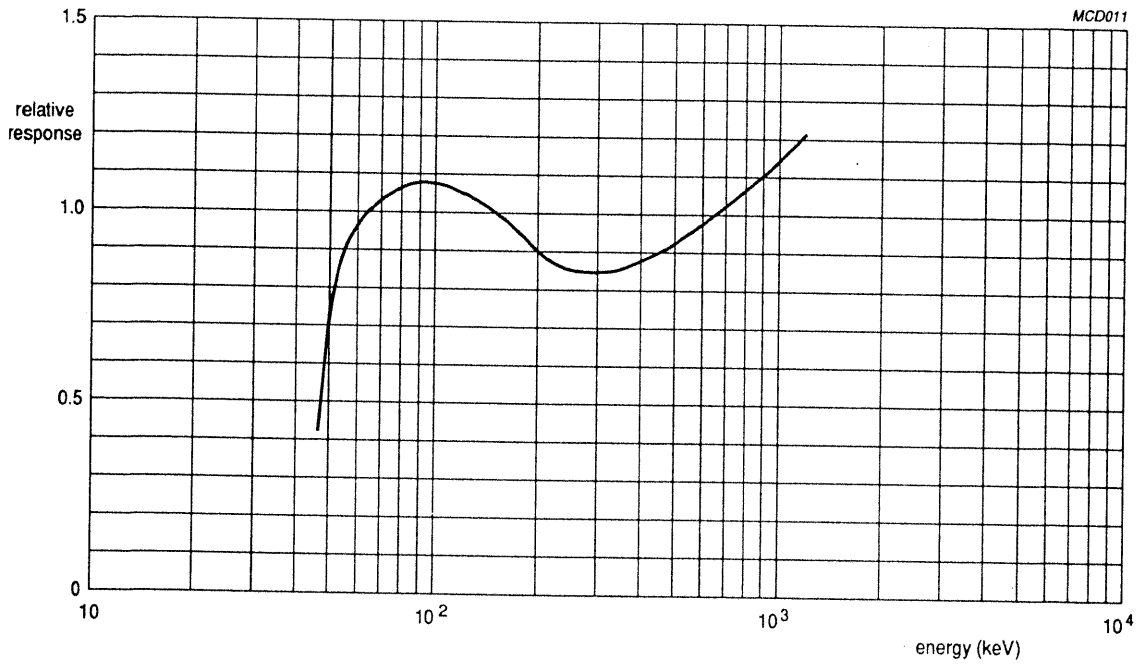
Figure 2



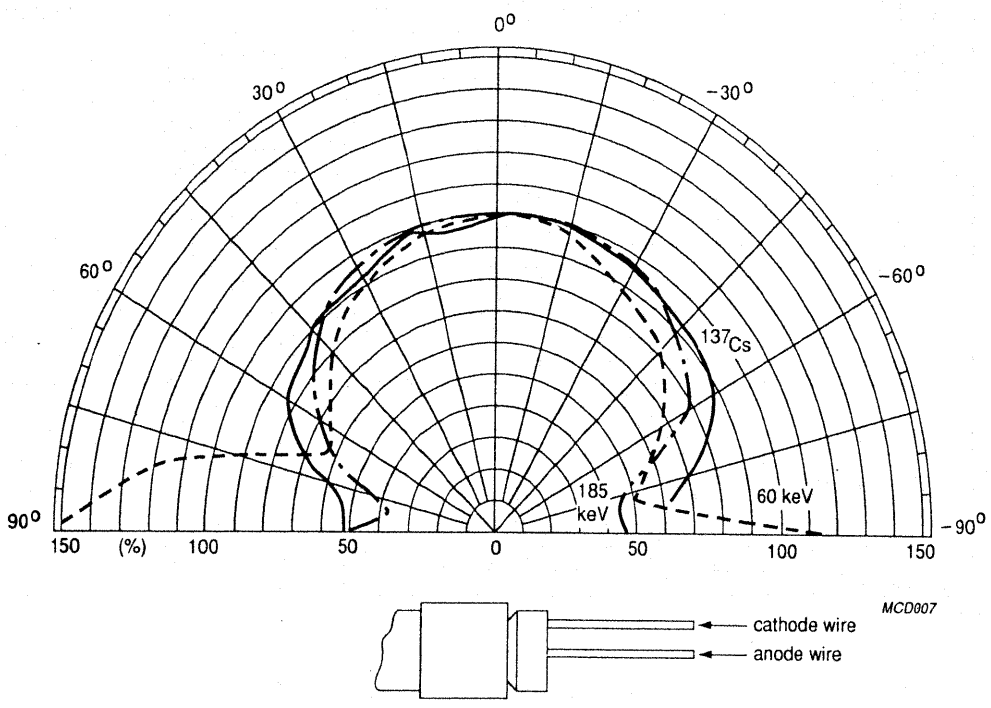
Typical counting rate as a function of dose rate (¹³⁷Cs)



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°).