GEIGER MÜLLER TUBE

End window halogen-quenched β and γ radiation counter tube.

QUICK REFERENCE DATA

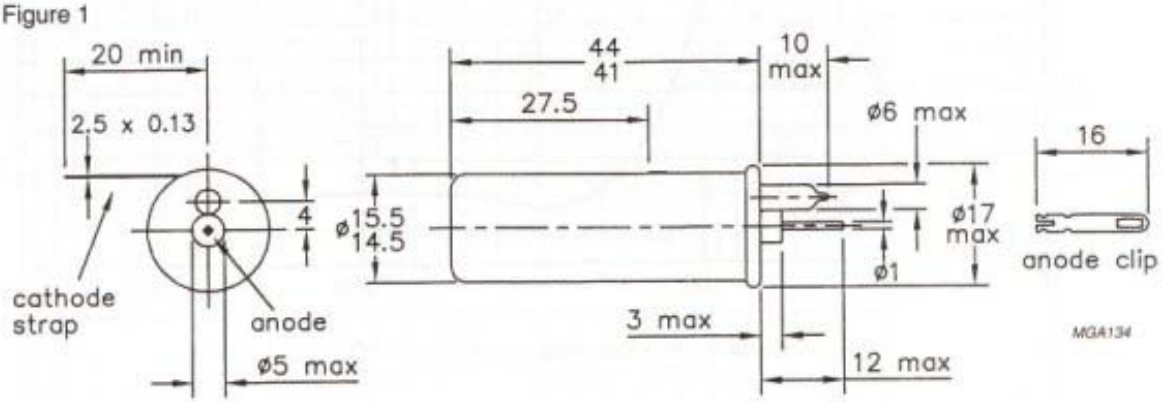
Dose rate range	10^{-3} to 10^{2}	mGy/h
	10^{-4} to 10	R/h
Plateau threshold voltage	400	V
Plateau length	200	V
Recommended supply voltage	500	V
Chrome iron cathode	250	mg/cm²
Mica window (9 mm diameter)	2.0 to 3.0	mg/cm²

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

MECHANICAL DATA

Dimensions in mm

Figure 1



WINDOW

Thickness	2.0 to 3.0	mg/cm²
Useful diameter	9	mm
Material	mica	

CATHODE

Thickness	250	mg/cm²
Sensitive length	39	mm
Material	chrome iron	

ENVIRONMENTAL

Shock (half sine wave 3 ms duration) - peak acceleration	392	m/s²
Vibration (50 Hz continuous sine wave) - acceleration	24.5	m/s²

FILLING

neon, argon, halogen

CAPACITANCE

Anode to cathode	1.1	pF

TUBE WEIGHT

7.0 g

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	90	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

BETA RESPONSE

Point source ($^{90}Sr/^{90}Y$)	0.25	c/s/Bq
Extended source ($^{90}Sr/^{90}Y$)	0.42	c/s/Bq cm^{-2}

MEASURING CIRCUIT

R_1 = 10 MΩ
R_2 = 220 kΩ
C_1 = 1 pF*

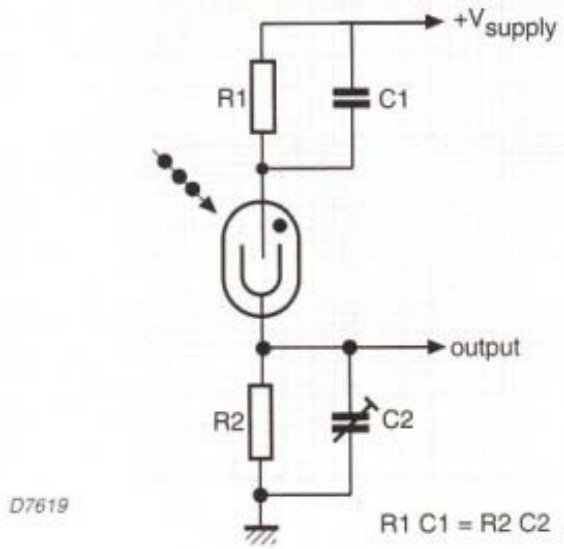
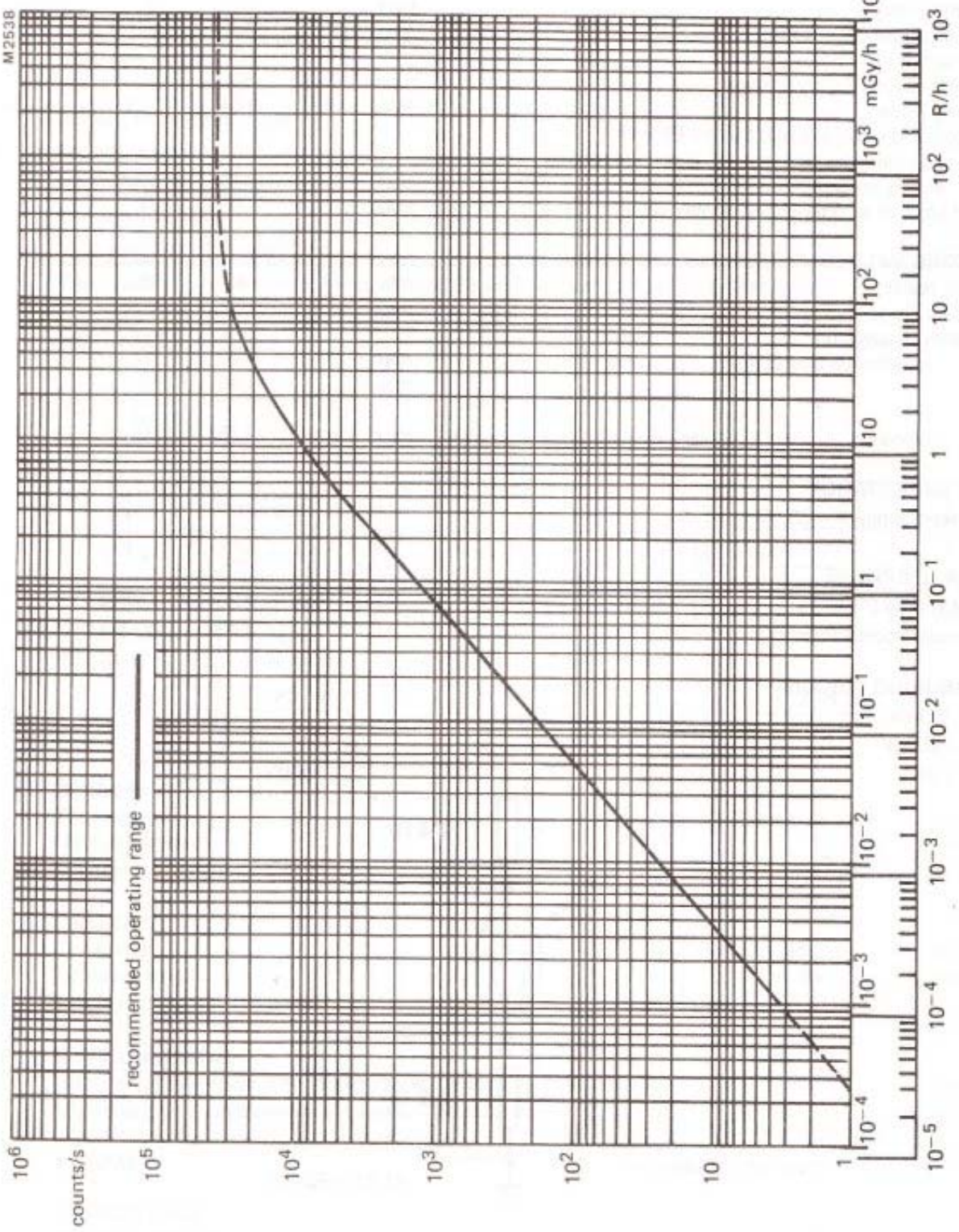
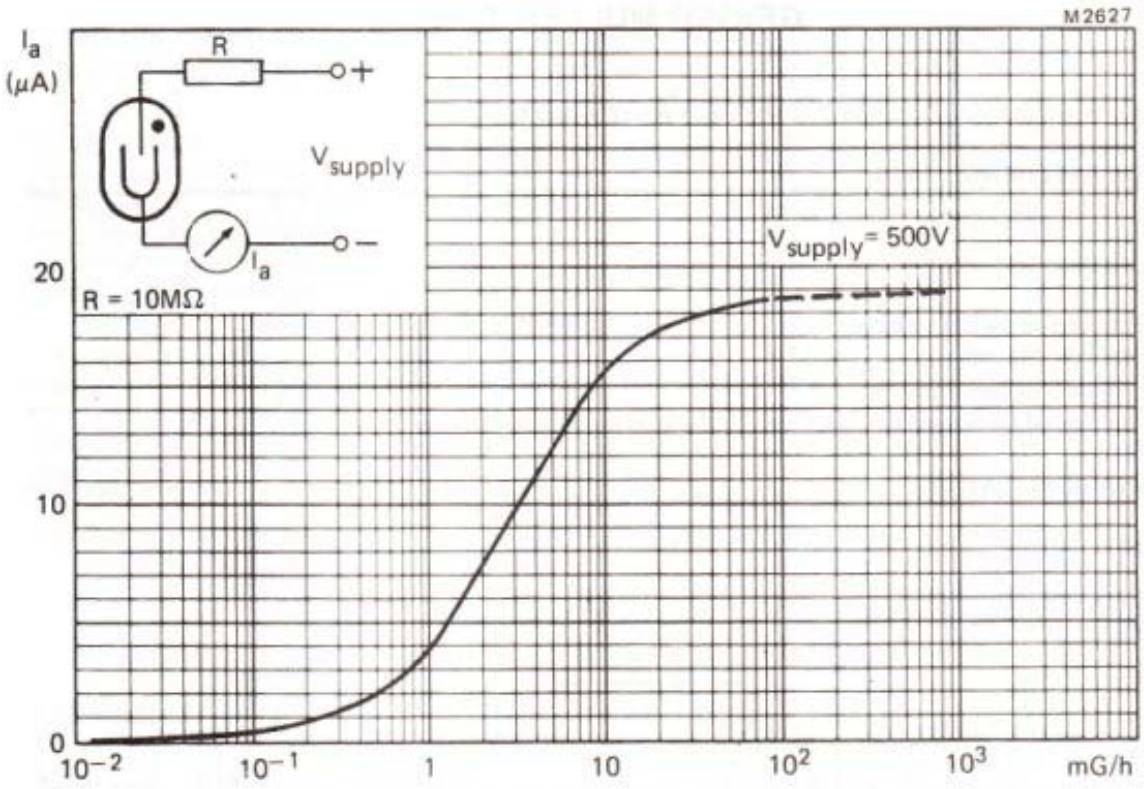


Figure 2

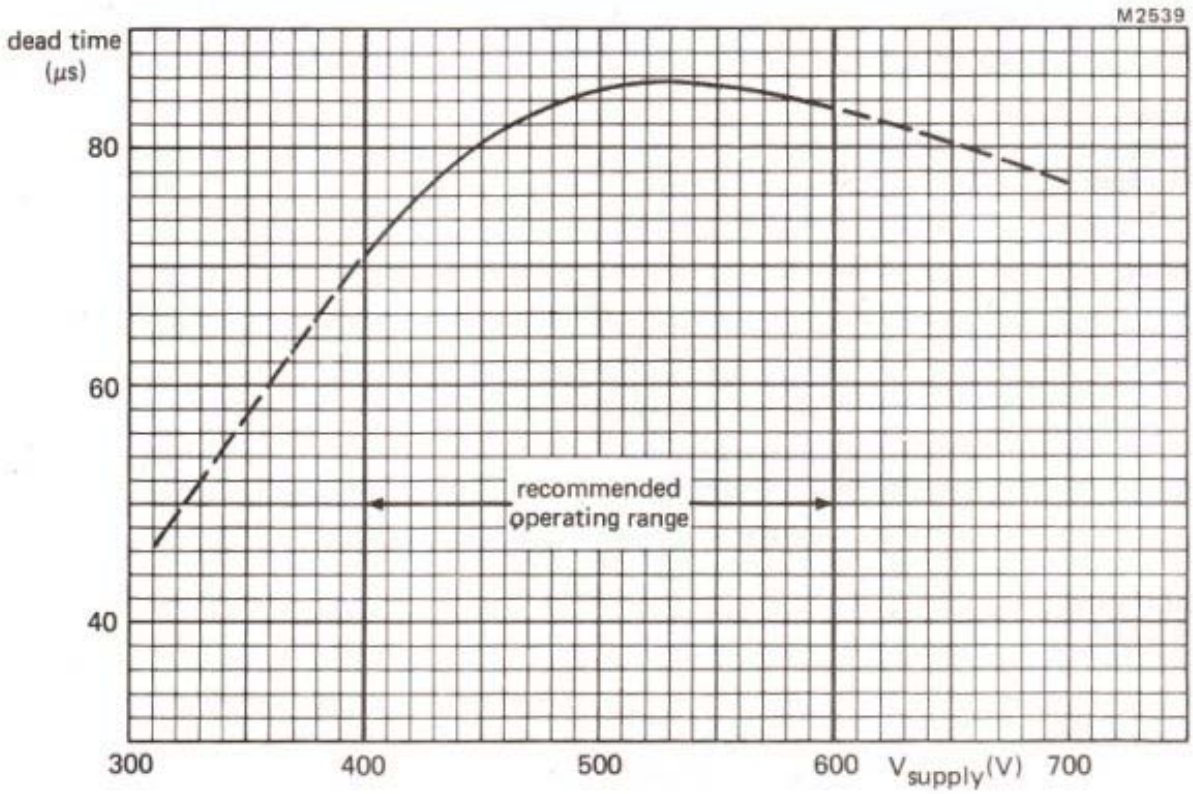
* See General Information (Paragraph 5.5)



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



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



Typical dead time as a function of supply voltage