

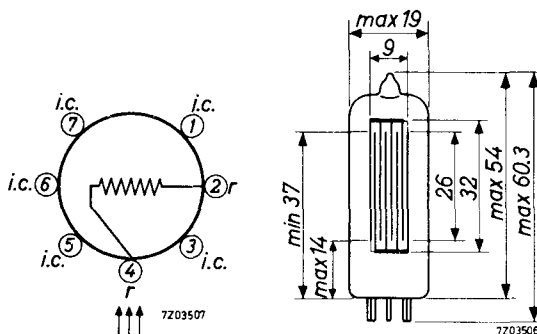
CADMIUM SULPHIDE PHOTOCONDUCTIVE CELL

Cadmium sulphide photoconductive cell with side sensitivity intended for use in flame control, smoke detector or industrial on-off switching applications. The cell is shock and vibration resistant.

QUICK REFERENCE DATA			
Power dissipation at $T_{amb} = 25^{\circ}C$	P	max.	1 W
Cell voltage, d.c. and repetitive peak	V	max.	350 V
Cell resistance at 50 lux, 2700 °K colour temperature	r		1000 Ω
Spectral response curve		type D	
Outline dimensions		max. 19 dia. x 60.3 mm	

MECHANICAL DATA

Dimensions in mm



Base: 7 p. miniature

Total area to be illuminated $0.9 \times 3.2 \text{ cm}^2$

ELECTRICAL DATA

General

The electrical properties of CdS cells are dependent on many factors such as illumination, colour temperature of the light source, voltage, current, temperature, total time of operation in the circuit and time of operation during the last 24 hours prior to the measurement. The following basic characteristics are therefore only checkpoints of the electrical properties of these devices measured with defined values of the various conditions and at delivery.

Basic characteristics at $T_{amb} = 25^{\circ}\text{C}$, illumination with colour temperature of 2700°K and at delivery.

	symbol	min.	typical	max.	unit
Initial dark current measured with 300 V d.c. applied via 1 M Ω , 20 s after switching off the illumination	I_{do}			70	μA
Equilibrium dark current measured with 300 V d.c. applied via 1 M Ω , 15 minutes after switching off the illumination	I_{do}			2.5	μA
Initial illumination current measured at 10 V d.c. and illu- mination = 50 lux, after 16 hrs in darkness ¹⁾	I_{lo}	3	10	15	mA
Initial illumination current measured at 10 V d.c., illumina- tion = 50 lux and colour tempera- ture = 1500 $^{\circ}\text{K}$, after 16 hrs in darkness	I_{lo}	6	20	31	mA
Sensitivity at 50 lux, with 10 V d.c. applied	N		0.2		mA/lux
Current rise time	t_{ri}		see sheet B		
Current decay time	t_{fi}		see sheet B		

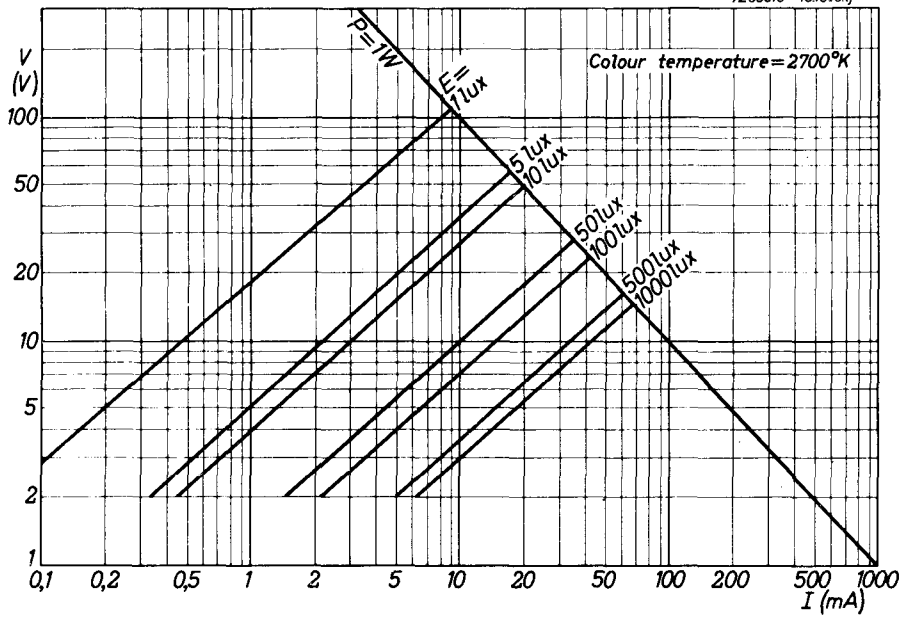
¹⁾ After 16 hours in darkness changes in the CdS material are still occurring, but have only insignificant effect on the illumination resistance and on the resistance decay time.

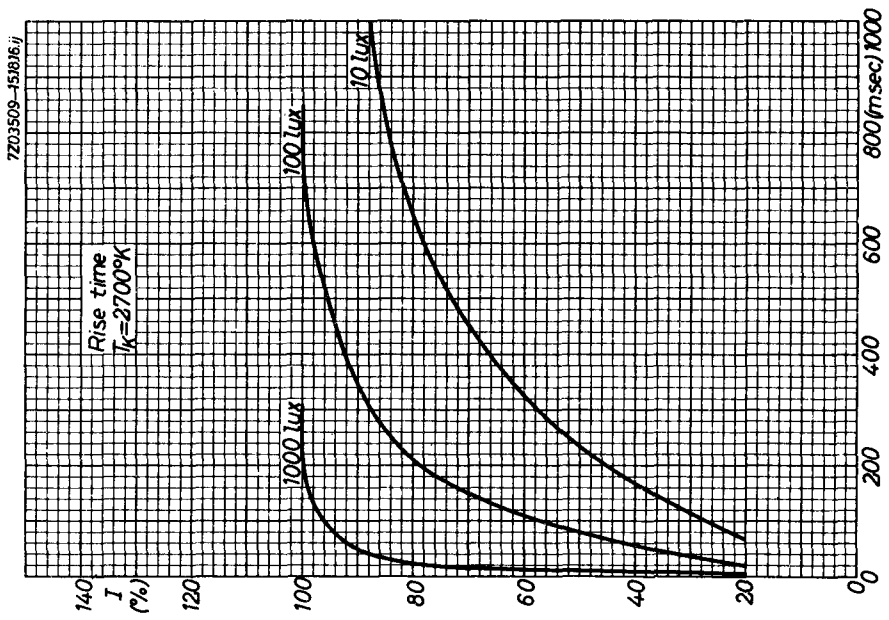
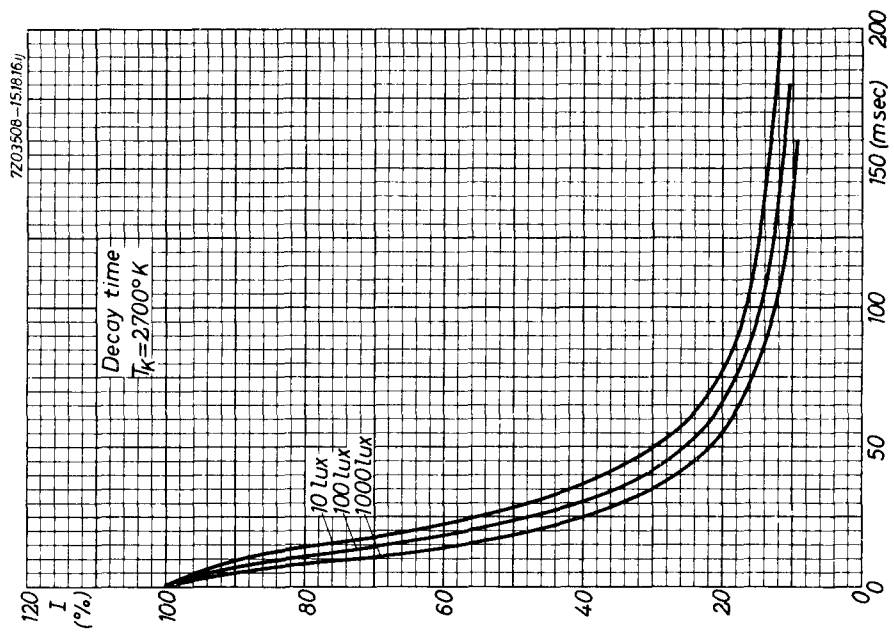
LIMITING VALUES (Absolute max. rating system)

Cell voltage, d.c. and repetitive peak	V	max.	350	V
Power dissipation at $T_{amb} = 25\text{ }^{\circ}\text{C}$	} See also sheet C	P	max.	1.0 W
Power dissipation at $T_{amb} = 70\text{ }^{\circ}\text{C}$		P	max.	0.3 W
Ambient temperature, storage and operating	T_{amb}	min.	-40	$^{\circ}\text{C}$
storage	T_{amb}	max.	+50	$^{\circ}\text{C}$ ¹⁾
operating	T_{amb}	max.	+70	$^{\circ}\text{C}$

¹⁾ Operation of the cell counteracts the deteriorating effect of long periods at high temperature. The maximum operating temperature is therefore higher than the maximum storage temperature.

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